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Part III

Environmental Protection Agency

Gaseous Emission Regulations for 1983 and Later Model Year Light-Duty Trucks

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 86]

[FRL 1092-7]

Control of Air Pollution From New Motor Vehicles and Motor Vehicle Engines; Gaseous Emission Regulations for 1983 and Later Model Year Light-Duty Trucks

AGENCY: Environmental Protection Agency.

ACTION: Notice of Proposed Rulemaking.

SUMMARY: The proposed rule would establish more stringent hydrocarbon (HC) and carbon monoxide (CO) emission standards and would retain the current oxides of nitrogen (NOx) standard for the light-duty truck (LDT) class for 1983 and later model years. In addition, the proposed rule would establish new standards for HC and CO idle emissions from all vehicles in the class and would extend the existing standard for crankcase emissions, which presently covers only gasoline-fueled vehicles, to diesel LDTs. The Environmental Protection Agency (EPA) proposes the HC and CO exhaust emission standards (including idle standards) as they apply to heavier light-duty trucks (those which have gross vehicle weight ratings (GVWR) greater than 6,000 pounds and therefore fall within the Clean Air Act's definition of heavy-duty vehicles) according to the requirements of Section 202(a)(3)(A) of the Clean Air Act (42 USC 7521(a)(3)(A) as amended in 1977). Other emission standards are also proposed under the prescribed authority in Section 202(a) of the Clean Air Act as amended. This action also proposes to change the definition of useful life for LDTs and the procedures used to verify the durability of emission control systems over the useful life of the vehicle (which has a secondary impact on evaporative emissions and proposed diesel particulate regulations). Changes are proposed to the allowable maintenance a manufacturer may perform on test vehicles. Also proposed are modifications to the Selective Enforcement Auditing (SEA) Program employed for all LDTs and a system of nonconformance penalties potentially applicable for those LDTs having GVWRs greater than 6,000 pounds. Should this nonconformance penalty system be implemented, these trucks could be certified to emission levels in excess of the standards upon payment of a penalty by the manufacturer.

EPA anticipates that if these regulations are promulgated as a final rule, total mobile source emissions will be reduced up to 17 percent for HC and up to 26 percent for CO. These reductions correspond to urban air quality improvements of 3.4 percent for oxidants and 9 percent for carbon monoxide.

DATES: Comments received by October 10, 1979 will be considered during final rulemaking. The final rule will be published as soon as practical after consideration of the comments received by this date, and will take effect 60 days after publication. The 1983 model year will be the first affected by the proposed action.

Public hearing: A public hearing on the provisions of the proposed regulations will be convened on September 10, 1979. The time and place of this hearing will be announced later. Pursuant to section 307 of the Clean Air Act, the record of the public hearing will be kept open for 30 days following the close of the hearing, to provide an opportunity for submission of rebuttal and other information.

ADDRESS: Interested persons may submit written comments on this rulemaking to the U.S. Environmental Protection Agency, Central Docket Section, Waterside Mall Room 2903B (EPA Library), 401 M Street, SW., Washington, D.C. 20460.

Four copies of comments are requested but not required.

AGENCY:

FOR FURTHER INFORMATION CONTACT: Mr. John Anderson, Emission Control Technology Division, Environmental Protection Agency, 2565 Plymouth Road, Ann Arbor, Michigan, telephone (313) 668-4496.

Public Participation

SUPPLEMENTARY INFORMATION: Interested persons may participate in this rulemaking by submitting written comments to the Administrator at the above address, by attending the public hearing, or both. To the extent possible, the Agency requests that written comments be submitted prior to the public hearing. It is EPA's intention to assure all interested parties an opportunity to study all information which may become the basis for EPA's final action in this proceeding. Accordingly, the Agency will not consider in this rulemaking any material which cannot be made available to the public. Parties who wish to submit information in response to this Notice of Proposed Rulemaking are cautioned that EPA will not consider, but will return to the commentor, any comments which are claimed, in whole or in part, to be confidential.

Background

Although there have been gains in control of air pollution, many air quality control regions still fail to meet the ambient air quality standards for motor vehicle-related pollutants. Light-duty trucks contribute a significant portion of the total nationwide emissions of hydrocarbons, carbon monoxide, and oxides of nitrogen; yet to date they have not been controlled to the stringency represented by existing light-duty vehicle standards (greater than 95% reduction of HC and CO from the uncontrolled state). They therefore constitute one of the more important sources of emission reductions and air quality improvement. The proposed regulations will realize this reduction for HC and CO.

1. History of the Light-Duty Truck Class

The first Federal regulations for the control of motor vehicle emissions placed trucks and similar vehicles having gross vehicle weight ratings (GVWR) of 6,000 pounds or less (typically "half ton" pick-ups and vans) in the light-duty vehicle (LDV) class. The LDV class also included passenger cars and so, beginning in the 1968 model year, trucks of this size were subject to the first Federal passenger car emission standards. As a result of a court order [1], EPA removed these trucks from the light-duty vehicle class and created the light-duty truck class, effective for the 1975 model year. The new class contained all vehicles which were not passenger cars and which had GVWR less than 6,000 lbs., a group composed mostly of pick-ups and vans. Trucks with GVWR greater than 6,000 lbs. including some pick-ups and vans, were at that time classed as heavy-duty vehicles, the engines of which were subject to the heavy-duty engine (HDE) emission regulations.

The LDV and later the LDT standards applicable to pick-ups and vans below the 6,000 lbs. GVWR ceiling were always more stringent than the HDE standards applicable to the same type of vehicles above the ceiling. Pick-ups and vans above and below the ceiling were physically similar, however, and about equally well suited for use as personal transportation, the primary use of both. Over the course of a few years more vehicles above the GVWR ceiling were being sold. This "migration" to higher GVWR and less expensive, less effective emission control systems undermined the Federal mobile source emission control program. EPA therefore expanded the LDT class, effective for

[1] *International Harvester Co.* v. *Ruckleshaus*, 478 F.2d 615 (DC Cir 1973).

the 1979 model year, by raising the GVWR ceiling to 8,500 lbs. Ceilings of 6,000 lbs. for curb weight and 46 square feet for vehicle frontal area (later amended to 45 square feet) were also added to help separate the smaller and lighter trucks used primarily for personal transportation from the larger and heavier trucks used primarily in commercial applications. The LDT standards for HC, CO, and NOx were changed for the same year to reflect advances in emission control technology as demonstrated on light-duty vehicles. EPA considered the heavier weights and larger road loads (aerodynamic drag and tire rolling resistance) typical of light-duty trucks when it decided how much emission control should be required when the LDV technology was applied to LDTs.

The fuel evaporative emission standard for the LDT class was first set at 2 grams per test for 1975, measured using a carbon trap procedure later found to greatly underestimate actual evaporative emissions. For 1978, EPA adopted a better measurement procedure (the SHED test) and set the standard at 6 grams. Because of the greater accuracy of the new procedure, the new 6-gram standard was more stringent than the old 2-gram, carbon-trap standard. In 1979, trucks in the 6,000 to 8,500 GVWR range came under this 6-gram standard due to the redefinition of the LDT class. A 2-gram, SHED-based standard will take effect for the 1981 model year.

2. Statutory Provisions

From the rulemaking which established the separate light-duty trucks class up until this rulemaking, light trucks have been regulated solely under the general authority of Section 202(a) of the Clean Air Act (with the exception of the recently proposed particulate standards). Congress had set no specified reductions for these vehicles to meet. With the Clean Air Act Amendments of 1977, Congress created a statutory heavy-duty class. All vehicles over 6,000 pounds are considered to be "heavy-duty" under Section 202(b) (3)(C) of the Clean Air Act. This classification includes the 6,000–8,500 pound GVWR portion of EPA's light-duty truck class. Thus, that portion of the LDT class, as well as EPA's heavy-duty engine class, must meet the emission reductions required by the Act for heavy-duty vehicles.

The Act goes on to prescribe a system under which HC, CO, and NOx standards for 1983 and later model year heavy-duty vehicles are to be established. Initially, Section 202(a)(3)(A)(ii) of the Act calls for EPA to promulgate regulations establishing "statutory standards" requiring at least a 90% reduction in HC and CO by the 1983 model year and at least a 75% reduction in NOx by the 1985 model year. These percentage reductions are calculated from 1969 model year "baseline" levels for HC and CO and from a 1973 model year "baseline" (or 1972 for those engines having NOx control in 1973) level for NOx. These reductions closely parallel those required for light-duty vehicles. However, the Act permits EPA to give manufacturers more time to apply the appropriate technology to "heavy-duty" vehicles than Congress itself gave for manufacturers of light-duty vehicles, which must meet their final standards in 1981. EPA also uses different baseline model years in conjunction with heavy-duty vehicles.

According to Subparagraphs 202(a)(3)(B) and (C) of the Act, the Administrator may revise the statutory standards otherwise mandated by the Act. The Administrator may take this action if he finds "that compliance with the emission standards otherwise applicable for such model year cannot be achieved by technology, processes, operating methods, or other alternatives reasonably expected to be available for production for such model year without increasing cost or decreasing fuel economy to an excessive and unreasonable degree." Revised standards may apply only for a period of three years, beyond which either more stringent standards or the original statutory standards will apply.

In addition, Section 206(g)(1) of the Act states that "* * * in the case of any class or category of heavy-duty vehicles or engines to which a standard under Section 202(a) of this Act applies," a manufacturer can obtain or retain a certificate of conformity covering heavy-duty vehicles or engines which do not meet applicable emission standards by paying a nonconformance penalty. This does not necessarily mean, however, that Congress intended that this nonconformance penalty alternative should be available to manufacturers of any 6,000–8,500 GVWR LDTs unable to meet the 1983 (or 1985) and later model year HC, CO, and NOx standards.

The report of the House Committee, which initially proposed the nonconformance penalty provision that eventually was adopted by Congress, only refers to the use of nonconformance penalties in conjunction with "revised standards," i.e., revisions to the 1983 statutory standards for HC and CO and revision to the 1985 statutory standard for NOx. (H.R. Rep. No. 95–294, 95th Cong. 1st Sess. 275 (1977)). The House report indicated that revised standards were to be implemented if EPA determined that manufacturers would be unable to meet the statutory HC, CO, and NOx standards within the time frame provided in the Act. To ensure that standards would not be relaxed more than necessary in moving from statutory to revised levels, EPA was directed to set revised standards at levels based on the capability of the industry's "technological leader." A nonconformance penalty alternative was then to be made available to accommodate those "technological laggards" unable to meet established standards. By paying the nonconformance penalty, the laggards would be able to continue selling engines while improving their technology to the point where they could meet the standards.

The implication EPA has drawn from this legislative history is that the nonconformance penalty alternative is not necessarily to be made available in conjunction with every emission standard for heavy-duty vehicles promulgated pursuant to Section 202(a). Since the nonconformance penalty alternative is intended to accommodate "technological laggards", it need be made available only in the event that applicable emission standards are established according to the capabilities of the industry's technological leader.

In summary, then, EPA's position regarding the regulation of HC, CO and NOx emissions from heavy-duty vehicles or engines is that the Act envisions that regulations for 1983 and later model year heavy-duty vehicles promulgate the statutorily-prescribed standards if the industry as a whole can comply with those standards. If the industry as a whole can comply, no conformance penalty alternative need be made available to accommodate "technological laggards." If some, but not all, manufacturers are able to meet the statutory standards, EPA is still to adopt those standards but also is to provide a nonconformance penalty alternative to accommodate the industry's "technological laggards." If even the industry's technological leader cannot meet the statutory standards, then EPA is to revise the standards to levels which the leader can meet and is to provide a nonconformance penalty alternative to accommodate the laggards.

Section 206(g) of the Act prescribes several criteria which EPA is to incorporate into any nonconformance

penalty mechanism it may adopt. As a result, any nonconformance penalty system applicable to light-duty trucks will include the following features:

(1) Of all light-duty trucks, the option of paying nonconformance penalties rather than complying with the standards is potentially available only with respect to those LDTs with GVWR in excess of 6,000 pounds, i.e., only to that "upper" portion of the light-duty truck class which must conform to the statutory requirements for "heavy-duty vehicles" as the term is defined by the Clean Air Act.

(2) While a manufacturer may chose to certify or produce light-duty trucks at emission levels above the standards, there are limits as to how high these levels may be. The Administrator is directed to establish these "upper limits" on the basis of what the Administrator determines to be "practicable" (Section 206(g)(2) of the Clean Air Act). The "upper limits" will correspond to the lowest emission levels which the Administrator determines the industry as a whole (including "technological laggards") has the capability of achieving. Under that approach, all manufacturers would be capable of continuing engine production when the 1983 standards go into effect.

(3) Therefore, if the Administrator promulgates standards which are practicable for the industry as a whole, upper limits would be set at the same levels as the standards. Thus, no range of nonconforming emissions could exist for which nonconformance penalties would be available as an option to manufacturers.

(4) EPA will conduct assembly-line testing to determine the extent to which light-duty trucks qualifying as heavy-duty vehicles are not in compliance with the regulations under which any applicable certificate of conformity was issued. Any nonconformance penalty assessment will be based on the results of that testing. For any configuration which has been certified to levels at or above the standards and which subsequently fails a Selective Enforcement Audit, a manufacturer can choose to continue producing the nonconforming vehicles by paying a nonconformance penalty based on further testing rather than to suspend production or to bring production vehicles of the configuration into conformity. EPA plans to order SEA testing on any configuration which is certified to levels above the standards.

(5) Nonconformance penalties may vary from pollutant to pollutant.

(6) Penalties may vary by type of vehicle.

(7) Penalties must take into account the degree to which emissions exceed the standards.

(8) Penalties must be periodically increased.

(9) Penalties must remove any competitive disadvantage to manufacturers which choose to produce vehicles in compliance with standards relative to those manufacturers which choose to pay nonconformance penalties.

The Clean Air Act does not establish minimum standards for vehicles which, because their GVWR is less than 6,000 lbs., are not in the statutory "heavy-duty" class and, because of the court decision, are not in the statutory light-duty vehicle class. These vehicles, the bottom portion of the light-duty truck class as EPA's regulations define it, are still included in the general statutory authority described above, however.

Finally, all motor vehicle emission standards under the Clean Air Act must apply to vehicles or engines for their "useful life." The Act directs the EPA Administrator to prescribe regulations under which the "useful life" will be determined. The Act constrains the "useful life" of vehicles in the light-duty truck class (both above and below 6,000 lbs. GVWR) to be 5 years or 50,000 miles (or the equivalent), whichever first occurs, unless the Administrator determines that a longer period is appropriate.

Summary of the Proposal

1. Statutory HC and CO Exhaust Emission Standards for Light-Duty Trucks With GVWR Between 6,000 and 8,500 lbs. (Including Idle Standards)

In its initial approach to this proposed rulemaking, EPA had planned on proposing LDT standards based on maximum feasibility and stringenty, similar to LDV standards. Those standards were more stringent than the ones being here proposed. EPA now believes it is more appropriate to apply the statutory reductions which Congress has established for heavy-duty vehicles. The proposal includes regulations implementing the statutory 90% reduction HC and CO exhaust emission standards for the portion of the light-duty truck class which falls within the statutory "heavy-duty" class; i.e., those in the 6,000 to 8,500 lbs. GVWR range.

EPA has recently completed baseline testing of 1969 gasoline-fueled light-duty trucks in the 6,000 to 8,500 lb. GVWR range. The final proposed emission levels, representing a 90% reduction from baseline levels, appear below.

Pollutant	Proposed standard (g/mile)
HC	0.8
CO	10

A collection of the data used in generating these standards may be found in the Public Docket established for this proposed rulemaking (No. OMSAPC–79–2).

EPA is not proposing to revise the statutory 1983 standards for HC and CO under the provisions of Sections 202(a)(3)(B) and (C) of the Clean Air Act. The Administrator is unable at this time to make the finding of infeasibility required by section 202(a)(3)(C) as a precondition to revision. In fact, as explained further in this preamble, EPA is confident that compliance with the standards can be achieved by techology which is similar to that which has already been demonstrated on light-duty vehicles, which will be available for adaption to light-duty trucks for 1983, which will not increase cost to an excessive or unreasonable degree, and which will not decrease fuel economy. However, manufacturers' and others' comments on feasibility will be considered. If these comments indicate that revisions are warranted, the standards will be revised.

Standards for the control of HC and CO emissions during vehicle idle (hereafter called the idle HC and idle CO standards) are proposed also. The values are 970 ppmC for HC and .47 percent for CO. The levels of the standards are equal to the idle standards recently proposed for heavy-duty engines (44 FR 34603, June 15, 1979). For that rulemaking, EPA derived idle HC and CO levels by applying a 90% reduction to heavy-duty uncontrolled baseline idle data. It is EPA's position that this heavy-duty data characterizes light-duty truck idle emission as well. However, comments addressed to EPA's treatment of the idle standards are encouraged (see accompanying "Request for Comments" section).

The methodology of and data from the heavy-duty idle baseline program is presented in the Technical Report titled "1969 Heavy-Duty Engine Baseline Program and 1983 Standards Development," available through the Public Docket established for that proposed rulemaking (No. OMSAPC–78–4).

At present there are no EPA test procedures in effect for measuring idle HC and idle CO from light-duty trucks. EPA is therefor proposing such a procedure. The new procedure is the only proposed change to current

emission testing procedures and it is identical to the procedures proposed recently for heavy-duty engines (44 FR 9464 2/13/79). The flexible preconditioning procedure and less restrictive instrumentation specifications for the idle procedure permit the straightforward adoption of regulations under Section 207(b) of the Act, if the Administrator makes the appropriate determinations specified in Section 207(b).

Separate standards for idle HC and idle CO are proposed because of the significance of idle emissions in urban areas. Assurance of effective control will be obtained through separate idle standards. Idle operation represents about 20% of the operation in the urban environment. Operation in certain congested traffic situations, such as at traffic signals and during bumper-to-bumper traffic would result in significantly higher idle times. Such congested traffic situations can result in local "hot spots" of CO.

Adoption of idle HC and CO standards will also allow the adoption of warranty regulations under Section 207(b) of the Act, if the Administrator makes the appropriate determinations specified in Section 207(b).

2. General Authority HC and CO Standards for Light-Duty Trucks with GVWR Under 6,000 lbs.

EPA proposes that LDTs with GVWR under 6,000 lbs. be subject to the same numerical standards for HC and CO, i.e., the 90% reduction standards, as LDTs with GVWR between 6,000 and 8,500 lbs. This provision includes the idle HC and idle CO standards. EPA proposes these standards under the general authority of section 202(a)(1) of the Clean Air Act. HC and CO emissions from LDTs under 6,000 lbs. GVWR contribute to air pollution which endangers public health. Further, although the levels of the proposed HC and CO standards are keyed to the emissions of 1969 vehicles with GVWR above 6,000 lbs., EPA anticipates that they will be reasonable standards for the under-6,000 lbs. GVWR group. EPA believes that this group of LDTs could in fact meet substantially more stringent HC and CO standards. In particular, the smallest and lightest could meet the 1983 passenger car standards of 0.41 grams per mile HC and 3.4 grams per mile CO. However, EPA does not wish to discourage downsizing and weight reductions. More stringent standards for the under-6,000 lbs. GVWR group would have such a discouraging effect. The period before 1983 will permit the development and application of the technology required for compliance for the under-6,000 lbs. GVWR vehicles, at reasonable cost, just as it will for the 6,000 to 8,500 lbs. GVWR group.

3. Crankcase Emission Standards for Diesel Light-Duty Trucks

Except for one engine line representing only a small fraction of light-duty diesel engine sales, all light-duty diesel engines currently being produced (both for LDV and LDT) have crankcase controls. However, such control is not required by regulation and there are indications that as new gaseous and particulate standards are applied to light-duty diesels, manufacturers may desire to remove crankcase controls from those engines. Although the number of diesel LDTs is currently small, the number of diesel vehicles of all types is rising and it is possible that significant diesel penetration of the LDT market could occur in future years. In order to maintain crankcase controls and preclude a new emissions problem in the event that such penetration does occur, EPA proposes to regulate LDT diesel crankcase emissions. Statutory authority for proposing such controls is provided under Section 202(a) of the Clean Air Act. The current HC emission regulations place controls on crankcase emissions from gasoline-fueled engines, but not from diesel engines. It is inappropriate that diesel engines continue to be excluded from regulations which apply to a competing engine. In addition to being a source of HC and CO emissions, recent testing indicates the possible presence of various nitrosamines in diesel crankcase gaseous flow (refer to EPA report titled "Diesel Crankcase Emissions Characterization, Final Report of Task No. 4, Contract 68-03-2196," May 1977 for description and summary of test results). Nitrosamines are a very strong carcinogen in animals and strongly suspected to be carcinogenic in humans.

The same testing also indicated that the particulate emissions from diesel crankcase flow consisted mostly of lubricating oil. Recent work by other researchers has indicated that whereas fresh lubricating oil appears to be nonmutagenic, it quickly becomes mutagenic with use. Therefore, it is very likely that diesel crankcase emissions could be mutagenic (as measured by Ames testing) soon after each oil change. (For further information on "Ames testing" refer to the article titled "Methods for Detecting Carcinogens and Mutagens with the Salmonella/Mammalian—Mirosome Mutagenicity Test," by B. N. Ames, J. McCann, and E. Yamasaki, Mutation Research, 31 (1975), pgs. 347-364.)

4. Revised Definition of "Useful Life"

EPA interprets section 202(d) of the Clean Air Act to allow the Administrator to determine that the appropriate useful life for a light-duty truck is the average total life of all trucks of the same configuration. The Administrator proposes to make this determination during this rulemaking and to define the useful life accordingly. This proposal is consistent with the Administrator's action and reasoning during the rulemaking that established emission regulations for motorcycles (42 FR 1122, January 5, 1977), the most recent rulemaking in which a definition of useful life was an issue.

EPA proposes to amend the current definition of "useful life" for light-duty trucks. The present definition, 5 years or 50,000 miles (or the equivalent) whichever occurs first is unrealistically short. The proposed revision defines the useful life as the average period of use up to vehicle retirement or engine replacement or rebuild. Since the period may vary among manufacturers, and among vehicle types produced by a single manufacturer, EPA proposes that the manufacturer of a vehicle determine the duration of this period in miles, years, hours of operation, or some combination of these. The useful life is, however, constrained to be not less than 5 years or 50,000 miles whichever occurs first, or the period of the basic mechanical warranty on the engine assembly, whichever is longer.

The constraint that the useful life be not less than 5 years or 50,000 miles, whichever occurs first, is proposed because this is the minimum useful life allowed by section 202(d). The constraint that the useful life be not less than the period of the basic mechanical warranty on the engine assembly is proposed to help prevent a manufacturer from reducing the effectiveness of the emission regulations by determining its vehicles to have unreasonably short average periods before retirement or engine rebuild or replacement.

The revised definition of useful life will apply to all phases of the Federal light-duty truck emission control program. LDTs will be certified only if they are determined to comply with emission standards for their redefined useful life. Manufacturers will be required to give emission warranties for the redefined useful life. And in-use LDTs will be liable to recall for the same period.

In order to alert LDT owners about the limited duration of the emission

warranties on their vehicles, EPA proposes that the tune-up and fuel economy labels and the maintenance instructions for each LDT specify what period or distance the manufacturer has determined to be the useful life for that vehicle, and also state that the vehicle complies with EPA regulations for that period. The maintenance instructions will also explain the method the manufacturer used to determine the useful life.

5. Revised Durability Provisions

EPA proposes to amend the durability testing requirements for exhaust emissions and the procedure used to apply durability results from durability-data vehicles to emission-data vehicles when determining the compliance of the latter with emission standards. The current procedure involves the use of deterioration factors derived from 50,000-mile testing of prototype vehicles. The proposed procedure involves two new types of deterioration factors: preliminary deterioration factors and in-use deterioration factors.

EPA proposes to allow each manufacturer to design the test procedure used to determine preliminary deterioration factors for its vehicles. Manufacturers will submit descriptions of the test procedures, the data from the testing, and the resulting preliminary deterioration factors. The preliminary factors will be based on the amended definition of useful life. One set of factors will be submitted for each engine family-emission control system combination (hereafter called a family-system combination). EPA does not propose that the manufacturer be required to test one vehicle from every family-system combination or even that it be required to test complete vehicles, provided the manufacturer states it has designed the procedures in accordance with good engineering practice.

Once submitted, the preliminary deterioration factors will be used to project the low-mileage emissions of the manufacturer's emission-data vehicles to the end of each vehicle's useful life.

The manufacturer will submit and use preliminary deterioration factors for the 1983 model year, for any model year in which the manufacturer introduces LDTs in a new family-system combination, for any model year in which it redesigns a family-system combination so substantially that it creates a new combination, and possibly in the model year following each of these years depending on the progress of the manufacturer's in-use mileage accumulation program. The proposed requirements for this program are described in the following paragraphs.

EPA proposes that in a model year in which a manufacturer first submits preliminary deterioration factors for a family-system combination (e.g., 1983), the manufacturer be required to initiate a program of in-use mileage accumulation. The manufacturer will select at least three production vehicles to be durability-data vehicles. It will place them in a service application in which they will accumulate mileage in a manner representative of normal urban operation. For example, the manufacturer may use them in its own motor pool or lend them to employees for commuting. The manufacturer will be required to begin in-use mileage accumulation within three months after the vehicles selected for the program go into production.

EPA expects that engines designed for the 1983 standards will in most cases require modifications in 1985 to meet the statutory NOx standard. Therefore, manufacturers will have the option in 1983 and 1984 of not beginning in-use service accumulation if they choose to certify their engines for those years only.

EPA is proposing requirements intended to ensure that mileage is accumulated in a representative fashion. These requirements are stated in § 86.083–26(c)(5) of the proposed regulations.

The manufacturer will periodically conduct emission tests of the durability-data vehicles as they accumulate mileage. For each subsequent model year for which the manufacturer wishes to continue to certify the family-system combination, the results of the periodic emission tests to date will be compiled and used to calculate in-use deterioration factors. These factors, like the preliminary factors, will be based on the revised definition of the useful life. These in-use deterioration factors will supersede the preliminary factors, and each year's in-use factors will supersede the previous year's factors, until the durability-data vehicles have accumulated their full useful life mileage. However, the preliminary deterioration factors will be used for the second model year if no durability-data vehicle has accumulated 24,000 miles in time for the second year's certification determinations.

If the in-use deterioration factors are larger than the preliminary factors, or if they increase with each year's new test data, and if the manufacturer's emission control systems do not provide the necessary margin of safety to accommodate the larger factors, the manufacturer must act to correct the situation. The manufacturer may be able to recalibrate its systems enough to compensate for the larger factors. Alternatively, it may have to redesign the family-system combination for substantially lower low-mileage emissions, or for reduced deterioration. On the other hand, if the manufacturer's preliminary factors overestimated deterioration, the manufacturer could recalibrate its system for somewhat higher low-mileage emissions when the in-use deterioration factors revealed the overestimate. EPA intends that the multi-year certification cycle of preliminary deterioration factors followed by annually updated in-use deterioration factors should start over whenever a manufacturer makes a design change which significantly affects the durability of the emission controls. EPA expects that such design changes will usually include or be simultaneous with changes in features (called determinants) which distinguish one family-system combination from another, and conversely that changes in these family-system determinants will usually occur only in combination with changes which affect durability. Therefore, the proposed regulations key the start of the certification cycle to the first year in which a manufacturer applies for a certificate of conformity for a family-system combination.

Currently, certain engine family-system determinants are set down in the regulations. These are binding on both the manufacturer and EPA. EPA proposes that the Administrator have the discretion to group vehicles in successive model years into a common engine family if he determines that they can be expected to have similar emission deterioration characteristics. Assuming that the emission control systems on the two model years' vehicles are the same, this will have the effect of requiring the vehicles from the later model year to use the in-use deterioration factors derived from testing of vehicles from the earlier year. The decision as to whether the emission control systems are the same rests with the Administrator now. EPA does not propose to change this.

Under the proposed regulations, the Administrator may restart the certification cycle for any manufacturer, through his existing discretion to set engine family determinants beyond those listed in the regulations. In addition, the proposed regulations contain a provision that will provide a manufacturer partial protection of its interests as perceived by itself if it has made a durability related change but

has failed to persuade the Administrator to restart the certification cycle. EPA proposes that the manufacturer be allowed to start an additional fleet of durability-data vehicles in any model year. Once the vehicles in this fleet accumulate their full useful life mileage, the manufacturer will use their emission test results (collected over a number of years just as with the original fleet) instead of those from the original durability fleet. In this way, a manufacturer that makes an improvement in durability will in all cases at least be able to begin realizing the benefits of the improvement (i.e., the room it gives for higher low-mileage emissions) within a few model years, whether or not the design improvement resulted in a new engine family-control system combination.

EPA is also proposing an important change in the way in-use deterioration factors are to be calculated. Currently, each pollutant's deterioration factor is calculated by (1) compiling pairs of emission levels for the pollutant and corresponding mileage points, using results of emission tests on the 50,000-mile prototype, (2) performing a linear regression (least squares line fitting) to find emission level as a function of mileage, and (3) dividing predicted emissions at 50,000 miles (the current useful life) by predicted emissions at 4,000 miles. This procedure has one potential deficiency. If there is a component failure early during mileage accumulation which causes a sudden jump in emission level followed by comparatively little further deterioration, the linear regression will tend to overlook the initial few low-emission data points and to predict a relatively flat emission deterioration line. This flat line will in turn cause an unrepresentatively low deterioration factor which can completely mask the possibly important impact of the component failure. Component failures late during mileage accumulation can have a similar result.

Current regulations partially guard against this pitfall by prohibiting "line-crossing", a term which roughly means that a prototype durability vehicle has exceeded emission standards during its 50,000 miles. Any important component failure would result in line-crossing and would disqualify the durability vehicle. If the manufacturer could show that the failure was unrepresentative of what would happen with production vehicles, EPA would permit it to run a new vehicle. If the component failure on the first vehicle was in fact only a statistical freak, the second vehicle would likely produce useable deterioration factors. If the component design was actually inadequate, the second vehicle would also line-cross. EPA would then be in a position to refuse to certify the vehicles represented by that durability vehicle.

Under the proposed regulations, in-use mileage accumulation will take years, versus the months required for test-track mileage accumulation now. It will not be possible to start a new vehicle if one of the original vehicles line-crosses. Further, since there will be at least three durability vehicles for each family-system combination, and since the vehicles will be actual production vehicles, it will not be reasonable to consider a component failure to be unrepresentative. Instead, the effect of the failure on emissions can be averaged out using data from the other vehicles. The result will be deterioration factors that better account for the actual variation in the durability of production components.

The important change being proposed has three features. First, line-crossing will be permitted during in-use mileage accumulation. The fact that a vehicle has line-crossed will not allow or require a manufacturer to remove it from the fleet. Second, if the ratio of the highest measured emission level of a vehicle to its measured emission level at 4,000 miles is greater than the deterioration factor calculated with the linear regression procedure, the ratio will be used as the factor for that vehicle. This will detect step changes in emission levels. Third, the deterioration factors for the individual vehicles representing a single family-system combination will be averaged to get the single factor for the combination.

Finally, EPA wishes to alert readers that the proposed durability requirements, which represent a substantial change from current practice, contain many important details not discussed here. Among these details are restrictions on the selection of durability-data vehicles and their service applications, requirements on the scheduling of emission tests during mileage accumulation, procedures for dealing with durability-data vehicles that stop functioning before accumulating their full useful life mileage, a mileage accumulation waiver provision for small volume manufacturers, and possible penalties for failure to begin in-use mileage accumulation on schedule. The complete requirements are contained in §§ 86.083–21, 22, 23, 24, 25, 26, 28, and 30 of the proposed regulations.

6. Revised Maintenance Provisions

The proposal to revise the "useful life" definition and the durability provisions makes it necessary to propose revisions to the maintenance provisions as well. These restrict the amount and type of maintenance a manufacturer may perform on test vehicles during mileage accumulation. They need revision since they are now stated in terms of the current useful life definition and durability testing requirements, which will become obsolete if the rest of this proposal is adopted as final. EPA has taken this opportunity to propose substantive changes, described in the next paragraphs, as well. EPA believes that the new proposed provisions are necessary and desirable. As they may impact the difficulty and cost of compliance with the proposed emission standards for some manufacturers, it is appropriate to propose them at this time. These revisions are being proposed under the statutory authority of Section 207(c)(3)(A) and Section 206(d) of the Clean Air Act.

The proposed revisions fall into two categories. The first reclassifies a number of maintenance items which through neglect, misperformance or unrepresentative overperformance could affect emissions but which do not cause significantly unrepresentative deterioration factors or low-mileage emission results. The proposed reclassification will essentially deregulate these non-emission related maintenance items for the purposes of certification. Manufacturers will no longer be restricted as to the intervals at which they recommend these maintenance items to their customers and at which they perform them on test vehicles. The only requirement will be that recommendations to customers and maintenance actually performed on test vehicles be consistent.

The second revision requires that the few remaining maintenance items, defined as the "emission-related" items in the proposal, be shown by the manufacturer to be both technologically necessary and likely to be performed in use. Minimum intervals are proposed for "emission related" maintenance items. These minimum intervals are ones which EPA believes will make compliance feasible for all manufacturers. EPA may refuse to accept these or even longer intervals in practice, however, if the manufacturer fails to show technological necessity and likelihood of in-use performance. The existing maintenance provisions do

not in most cases require such a showing.

EPA believes that the relaxation of the requirements for non-emission-related maintenance items, those in the first category, is a desirable regulatory reform that will not reduce the overall effectiveness of the LDT emission control program. The revised requirements for emission-related maintenance items are necessary to ensure that the program does not lose effectiveness due to a gap between the designed-in durability of key emission control components and the maintenance habits of LDT owners.

7. Selective Enforcement Auditing

The Clean Air Act Amendments of 1977 added Section 206(g), which requires testing of heavy-duty vehicles as necessary to determine the percentage not in compliance with the regulations with respect to which a certificate of conformity had been issued. Under Section 206(b) of the Act, EPA already has implemented an assembly-line testing program, called Selective Enforcement Auditing (SEA), for determining whether light-duty trucks are being manufactured to conform to regulations under which the applicable certificate of conformity had been issued (40 CFR Subpart G (1977)). The SEA program will continue in effect for 1983 and later model year light-duty trucks under proposed Subpart K of Title 40, Part 86. This entire subpart would apply to vehicle or engine classes which are classified by the Act as "heavy-duty", which includes light-duty trucks in the 6000–8500 pound GVWR class. In addition, the sections of this subpart dealing with SEA would also apply to light-duty trucks with a GVWR less than 6000 pounds. Although Subpart K has been previously proposed, it is being reproposed to incorporate light-duty trucks as well as to make other miscellaneous changes.

The most significant proposed modification would base the SEA sampling plans and pass-fail decision criteria on an Acceptable Quality Level (AQL) of 10 percent. That is, a light-duty truck configuration with a GVWR either above or below 6,000 pounds would pass an audit if testing demonstrated that no more than 10 percent of the production vehicles in question failed to meet emission requirements. Even in the event that a nonconformance penalty alternative is made available to manufacturers of light-duty trucks in the 6,000-8,500 pound GVWR class, where a manufacturer certified LDTs above applicable emission standards, SEA still will be used to determine whether production vehicles are meeting the standards. See discussion below under "Production Compliance Auditing and Nonconformance Penalties." The AQL currently employed in SEA testing on light-duty trucks is 40 percent. The proposed 10 percent AQL would provide greater assurance that all light-duty trucks meet applicable standards after adjustment for deterioration, with only 10 percent allowed to exceed standards to provide for test variability and isolated instances of nonconformity. This is consistent with the requirement of the Clean Air Act that every vehicle be warranted to meet emission standards throughout its useful life.

A 10 percent AQL was proposed initially for the SEA program for light-duty vehicles and light-duty trucks (39 FR 45360 (1974)). In that proposal, emission standards for light-duty vehicles and light-duty trucks already had been fixed, and comments on the proposal asserted that adverse economic repercussions could occur to the light-duty vehicle and light-duty truck industries by immediately imposing a 10 percent AQL. Under the production practices of the industries in effect at that time, production was not geared so that the total production of all manufacturers of light-duty vehicles and light-duty trucks would comply with emission standards, but so that the total production of light-duty vehicles and light-duty trucks would meet standards on the average. Thus, a 40 percent AQL was adopted in the final regulations to avoid an unreasonable economic impact on the industry (41 FR 31472 (1976)).

In this notice, EPA is proposing a 10 percent AQL as part of a total compliance strategy for all 1983 and later model year light-duty trucks, both over and under 6,000 pounds GVWR. EPA believes that a 10 percent AQL can be met within the costs estimated for this proposed action and that such costs should not place an unreasonable economic burden on the manufacturers of any light-duty trucks, regardless of GVWR.

Other changes to the light-duty truck SEA program contained in this proposal include a provision that would require a manufacturer which conducts its own assembly-line testing program to report the test results from that program to EPA on a quarterly basis. The Administrator would not have to determine that evidence exists indicating noncompliance of vehicles or engines at a location other than a manufacturer's preferred plant before ordering SEA testing of vehicles or engines selected at that other location. In accordance with the Supreme Court's decision in *Marshall v. Barlow's, Inc.* (98 S. Ct. 1816 (1978)), EPA Enforcement Officers would be authorized to enter facilities to monitor SEA-related activities either through the consent of the party controlling the facilities or under the authority of a warrant or equivalent court order. The proposal contains no provision permitting manufacturers to perform on SEA test vehicles work normally performed by dealers in preparing a vehicle for delivery to a customer.

Unlike the current LDT SEA sampling plans in Subpart G of Title 40, the proposed heavy-duty engine and light-duty truck plans do not require subdividing the test population into "batches" for purposes of sample selection. The LDT test sample would not be drawn from pre-defined batches, but can be selected all at once, several at a time, or only as required. These sample plans employ what are termed "sequential" decision rules, because it would be possible to make a "pass/fail" decision regarding the outcome of the audit after testing each LDT in the test sample (as long as a minimum number are tested). This would avoid the need to test LDTs from each predefined batch in order to draw conclusions about the respective individual batches.

Failure of an SEA audit still may result in suspension or revocation of the certificate of conformity for the test configuration. The certificate would be retained or reinstated only after the manufacturer demonstrated compliance through additional audit testing following implementation of a design or quality control change on the affected configuration. Under Subpart K, however, the follow-up audit would be conducted according to a different sampling plan designed to reduce the "consumer's risk" that the manufacturer might pass the audit when it is in fact not complying with the AQL.

If the proposed idle HC and idle CO standards are promulgated as final, EPA's light-duty truck SEA program would enforce compliance with those standards in exactly the same way it would for the HC, CO, and NOx mass emission standards. In any model year, the SEA program would use the same deterioration factors that the certification program used for that model year. Emission data collected from the in-use durability vehicles after the deterioration factor is established during certification testing for a given model year will not affect the results of SEA testing conducted for that model year.

8. Production Compliance Auditing (PCA) and Nonconformance Penalty

Section 206(g) of the amended Clean Air Act directs the Administrator to promulgate regulations requiring that a certificate of conformity be issued and remain in effect for heavy-duty engines or vehicles exceeding an emission standard, yet within a specified practicable upper limit, if the manufacturer pays a nonconformance penalty based in part on the extent to which those vehicles or engines are exceeding the standard(s) as indicated by testing of production vehicles or engines. Thus, a nonconformance penalty system and a Production Compliance Auditing (PCA) Program also are being proposed in Subpart K in the event they are needed in conjunction with light-duty trucks in the 6,000–8,000 pound GVWR class. These proposed regulations will apply to light-duty trucks in the 6,000–8,500 pound GVWR class exactly the same way that Subpart K has been proposed to apply to heavy-duty engines.

Production Compliance Auditing is emission testing performed on a sample of light-duty trucks with GVWRs over 6,000 pounds to determine the "compliance level" of the entire population of those vehicles. A PCA would be conducted as a continuation of SEA testing whenever a manufacturer elected to pay a penalty upon failure of an SEA in lieu of bringing the LDTs into compliance. The compliance level established is in turn used to determine the amount of the nonconformance penalty that will be imposed on the manufacturer. The mechanics of PCA testing and the calculation and application of the compliance level derived from that testing are discussed in the preamble to EPA's recently proposed "Gaseous Emission Regulations for 1983 and Later Model Year Heavy-Duty Engines." That preamble, plus other supporting information, can be found in EPA Docket OMSAPC–78–4.

As discussed above in paragraph 2 of the "BACKGROUND" section to this preamble, EPA believes that a nonconformance penalty alternative need only be made available in conjuction with emission standards applicable to a class or category of heavy-duty vehicles or engines where the standards have been established on the basis of the capabilities of the class or category's technological leader. Stated alternatively, if the Administrator determines that the standards are practicable for the industry as a whole, then upper limits would be set at levels identical to those standards, thereby eliminating any range of actual emission levels to which the nonconformance penalty alternative could apply.

EPA believes that the proposed standards contained in this rulemaking (for HC, CO, idle HC or idle CO), are practicable and achievable by the light-duty truck industry as a whole. Since no technological laggards need accommodating with respect to these standards, no upper limits different from the standards need be set, no nonconformance penalty alternative need be made available to manufacturers of nonconforming light-duty trucks, and no PCA system need by employed.

EPA's current policy of not offering a nonconformance penalty alternative in conjunction with pre-1983 model year light-duty truck emission standards is based on similar rationale. By certifying light-duty trucks to the standards effective for the model years before 1983, manufacturers have in fact demonstrated that those standards are practicable for the industry as a whole and that there is no need to accommodate "technological laggards."

If EPA determines on the basis of comments received in response to this proposal that "technological laggards" would need to be accommodated through the availability of a nonconformance penalty alternative to meet the proposed exhaust mass emission standards, EPA will determine upper limits to accompany any of the standards and offer a nonconformance penalty alternative to accommodate those "technological laggards" unable to meet the standards. An upper limit would be set at the lowest emission level which the Agency determines the industry as a whole (including "technological laggards") has the capability of achieving. Thus, all manufacturers would be capable of continuing light-duty truck production when the new standards become effective. EPA would repropose the nonconformance penalty provisions and would incorporate the upper limits to ensure that the public would have adequate opportunity to comment on that portion of the regulations.

If light-duty trucks of the 6,000–8,500 pound GVWR class are permitted to be certified above the adopted standards but below the upper limits, the LDTs in question will be subjected to an SEA (using the follow-up sampling plan incorporating a reduced consumer's risk) to test whether production vehicles are meeting the standards. If that audit, or any other audit conducted under the SEA program, is passed, the manufacturer in question may continue producing the trucks in question without paying a nonconformance penalty. If that audit or any other SEA audit is failed, the manufacturer can elect either to cease producing the trucks in question, institute a change to rectify the nonconformity and participate in another SEA using the follow-up sampling plan, or complete a PCA and pay a nonconformance penalty based on the compliance level established by the PCA.

In the event that a nonconformance penalty is assessed against a particular light-duty truck configuration, the regulations provide that the penalty shall apply to the vehicles of that configuration produced since the beginning of the model year and all produced after that penalty has been set. If no changes have been made to the configuration up to the time of PCA testing (which establishes the penalty) and therefter, the Agency has no reason to believe that vehicles not included in the test sample will have emissions different from vehicles in the test sample. This assumes that the emissions performance of the configuration is consistent throughout the year so that the sample of light-duty trucks selected during a PCA is representative of the entire year's production. As a result, the penalty must be paid on all light-duty trucks of the noncomplying configuration.

The previously mentioned preamble to EPA's proposed "Gaseous Emission Regulations for 1983 and Later Model Year Heavy-Duty Engines" also discusses alternative formulas for calculating a nonconformance penalty according to the compliance level established by a PCA. (See also the support paper entitled "Nonconformance Penalties for Heavy-Duty Engines" in the Docket for this rulemaking.) This notice proposed for light-duty trucks the same formula that was proposed for the heavy-duty engines. The penalty formula takes into account the extent to which an LDT configuration exceeds a standard (as established by the compliance level) and the "marginal cost" of eliminating the last unit of emissions necessary to bring an industry-typical LTD into compliance with standards. The formula also employs a factor which increases the penalty for successive model years in which an LDT continues to fail to meet emission requirements. This formula has the effect of removing any competitive disadvantage to manufacturers whose LDTs comply with emission requirements.

This notice does not propose a marginal cost figure for use in the nonconformance penalty calculation. Rather, the marginal cost factor for both gasoline and diesel LDTs would be determined based on information and support documentation provided by manufacturers regarding the cost of compliance with the proposed standards and with hypothetical standards more or less stringent than those proposed and on analysis by EPA.

If EPA determines on the basis of comments in response to this proposal that a nonconformance penalty alternative should be available, EPA will incorporate this calculated marginal cost of compliance into a reproposal of the nonconformance penalty provisions to ensure that the public will have adequate opportunity to comment on that aspect of the regulations.

Interested persons are invited to comment on all aspects of the nonconformance penalty and production compliance audit systems.

9. Clarified definition of light-duty truck class

One of the distinguishing features of the light-duty truck class is the presence of "special features enabling off-street or off-highway operation and use." The precise meaning of this term in its application to particular cases has sometimes been unclear. Therefore, EPA is proposing a definition to clearly state the meaning of this phrase. The definition conforms to current EPA practice, and should not change the status of any current vehicles.

Relationship of This Rulemaking to Existing and Proposed Standards

1. Fuel Evaporative Emission Standard

A fuel evaporative emission standard of 2 grams per test will take effect for LDTs in 1981. In 1981, as at present, EPA regulations will require compliance with the evaporative emission standard for a period of five years or 50,000 miles, the current definition of useful life for LDTs. To determine this compliance, EPA adds a deterioration factor to the low-mileage evaporative emissions of a manufacturer's evaporative emission-data vehicles. The deterioration factor is derived from test programs designed by each manufacturer (much as preliminary exhaust emission deterioration factors will be under the proposal).

EPA does not propose to change the practice of letting manufacturers design their own durability test procedures for evaporative emission controls. EPA does propose that the revised definition of the useful life of LDT's apply to the evaporative emission standard in 1983 and expects that manufacturers would revise their test procedures accordingly.

2. Diesel Exhaust Particulate Standard

EPA recently proposed 1981 and 1983 exhaust particulate standards for diesel light-duty trucks and light-duty vehicles (44 FR 6650, 2/1/79). The proposed standards are 0.6 grams per mile in 1981 and 0.2 grams per mile in 1983.

This Notice of proposed Rulemaking reproposes the 1983 LDT standard. The purpose of the reproposal is to make it clear that if the proposed revisions to the useful life definition and the durability provisions are adopted as final, they will apply to the Diesel exhaust particulate standard beginning in 1983. Deterioration in particulate emission controls will be assessed the same way as deterioration in gaseous exhaust emission controls, i.e., initially with preliminary deterioration factors and later with in-use deterioration factors.

EPA may promulgate the 1983 particulate standard in the form in which it was originally proposed, and subsequently amend it to the form proposed here. Alternatively, EPA may directly promulgate it in the form proposed here. Which will occur depends on the progress of the two rulemakings.

Lead Time and Feasibility

This Notice of Proposed Rulemaking (NPRM) represents official notice that EPA intends to implement the statutory standards prescribed by Congress under Section 202(a)(3)(A) (ii) of the Clean Air Act as amended in August 1977 for that portion of the light-duty truck class which has been defined as "heavy-duty" by that Act for the 183 model year (i.e., those vehicles above 6,000 pounds GVWR). Based on the information available at this time, EPA believes that sufficient lead time is available to develop and apply the necessary emission control technology and to conduct compliance testing by 1983. Therefore, EPA cannot make the findings under Section 202(a)(3)(C) necessary to permit consideration of revised standards at this time. However, manufacturers comments on the feasibility of meeting the proposed standards will be considered in setting final standards. If revisions to the statutory standards are warranted, they will be made.

On the larger question of whether the entire light-duty truck class will be able to comply with all aspects of the proposed 1983 requirements, EPA also concludes in the affirmative, based on information available at this time. This conclusion has been noted in the preceding discussion on the availability of nonconformance penalties.

The proposed idle HC and idle CO standards are also well within the reach of catalyst systems, although it may be necessary to calibrate some of these systems for leaner idle operation than would otherwise be the case.

EPA recognizes that a longer useful life may force lower low-mileage emission targets on the manufacturers. However, deterioration rate of catalyst systems under current certification conditions (i.e., controlled test track mileage accumulation) is quite low for CO, the most critical pollutant in terms of the difficulty of meeting the proposed standards. If the proposed 1983 standards were expressed as 50,000-mile standards, using certification deterioration factors, they would be numerically lower but, EPA believes, still feasible.

For example, assuming (1) linear deterioration, (2) deterioration factors as currently defined (i.e., the emission level at 50,000 miles divided by the emission level at 4,000 miles) of 1.5 and 1.3 for HC and CO respectively (these values are typical of the upper end of the range of factors for current catalyst systems), and (3) a LDT useful life of 130,000 miles, the proposed 1983 full life standards would be equivalent to about 0.50/7.1 at 50,000 miles. EPA believes these levels would be feasible for LDTs.

There is the possibility that deterioration rates increase with mileage, so that the impact of an extended definition of useful life on stringency is greater than would be predicted by assuming linear deterioration. However, data from two light-duty vehicles operated for nearly 100,000 miles using EPA's durability Driving Schedule indicate that emissions after 50,000 miles did not deteriorate faster than emissions before 50,000 miles.[2] These two vehicles were equipped with oxidation catalysts.

The proposed requirement for in-use mileage accumulation will mean that 1983 LDT emission control systems will have to demonstrate durability under conditions that are somewhat different than those faced by any prototype vehicles certified to date. This may increase the measured deterioration rates and again force lower low-mileage targets, all else held constant. EPA has surveyed a number of in-use 1975 model year passenger cars with more than 75,000 miles of operation in its Emission

[2] EPA memo, "Comparison of Cert-Type Projections of Emissions to Actual 100k Data," K. Hellman to C. Gray, May 18, 1978.

Factors and Restorative Maintenance Programs.[3] These vehicles had a number of badly-worn components and other Problems. But once these were corrected, the vehicles exhibited emission levels which indicated that their catalysts (which under the proposed maintenance requirements may not be replaced on a durability-data vehicle until the 100,000-mile Point) still performed well. EPA concludes that any increase in measured deterioration rates can be sufficiently overcome by component improvements to make compliance with the proposed standards feasible.

It is important to note that the findings concerning 100,000-mile deterioration and in-use deterioration come from vehicles which were designed under only a 50,000-mile, test track durability constraint. It is reasonable to assume that if manufacturers directed their development efforts to meeting a total life durability constraint enforced via in-use deterioriation factors, as proposed, they could accomplish even more.

EPA recognizes that development work will be needed. In fact, the very purpose of the proposals is to force some development work in order to gain the improvement in emission control durability which it will produce. After considering the current status of catalyst system durability, EPA concludes that there is enough lead time for this development work. There are no emission test procedure complications in the proposed regulations, and no lead time needed for test facility alterations.

Environmental Impact

EPA's environmental impact analysis indicates that the proposed regulations will reduce the lifetime emissions of an average LDT by 580 to 840 lbs. of HC and 4.9 to 6.1 tons of CO, compared to the emissions from LDTs sold under the present regulations.

The upper ends of these reductions are nearly equal to the 90% HC and CO reductions called for by Congress. They have been calculated under an assumption that the proposed changes to the definition of useful life and the durability requirements, in combination with the implementation of inspection and maintenance programs for LDTs, will partially succeed in controlling deterioration in the emission control performance of in-use LDTs. The precise assumption used is not the most optimistic of all possible assumptions. EPA believes it is a reasonably accurate assumption, however. The details of the assumption may be found in EPA's Regulatory Analysis document.

The lower ends of the reductions are substantially less than the reductions mandated by Congress. They follow from the assumptions of EPA's current methodology for estimating emissions from future motor vehicles [4] and thus assume no benefit from the proposed useful life and durability changes or from I/M. This assumption is the most pessimistic of all possible assumptions.

Based on a cross section of urban areas experiencing air quality problems, these reductions in per vehicle emissions will by 95 yield improvements of 2 to 3.4 percent in average oxidant air quality and 6 to 9 percent in average carbon monoxide air quality.

EPA anticipates that it may be necessary to rely on inspection and maintenance programs if the upper ends of the above ranges in benefits are to be achieved. The chief purpose of such programs would be to identify vehicles which have been maladjusted, tampered, misfueled, or otherwise poorly maintained and to require their repair. The costs of inspection and maintenance programs were considered during the preparation and analysis of the proposed regulations. However, the regulations being proposed in this action do not require implementation of such programs.

EPA's environmental impact analysis is contained in the Regulatory Analysis of this proposed action. This document is available to the public as described below under "Availability of Documents".

Economic Cost

EPA estimates that compliance with the proposed 1983 requirements will increase the average price of a light-duty truck by approximately $62 over the price that would prevail if EPA made no changes to the existing regulations. There will also be an increase of about $60 in maintenance and operating costs (discounted to year of sale) over the life of the average LDT. This projected increase is due to the anticipated need for inspection programs funded through inspection fees and the need for other maintenance identified as necessary by the inspection programs (e.g. catalyst replacement). The action being proposed here will not itself cause these two or three increases in operating and maintenance costs. They will occur only if states and localities implement inspection and maintenance programs for 1983 and later light-duty trucks.

The estimated increase in the average price of a light-duty truck will contribute about 0.005 percentage points to the rate of increase in the Consumer Price Index, an indicator of general price levels of products purchased by consumers, during 1983. This increase is not properly called inflationary, since the public will receive air quality benefits in exchange for the higher prices of light-duty trucks.

The estimated aggregate cost to the nation of compliance for the five-year period 1983 through 1987 is $1.97 billion. This figure is the aggregate cost discounted to the beginning of the five-year period. Expressed as a required investment per vehicle made in the year the vehicle is manufactured the aggregate cost of compliance is about $116 per truck.

Since proposed 1983 standards are expected to result in no major change in current control technology and should be within reach of the manufacturers, EPA anticipates that no fuel economy penalty will be associated with this package.

EPA's Regulatory Analysis for this action contains the Agency's analysis of the cost of compliance with the proposed requirements. This document is available to the public as described below.

Cost Effectiveness

The reductions in vehicle emission rates summarized above under "Environmental Impact" and the per vehicle aggregate cost of compliance summarized above under "Economic Cost" can be combined to evaluate the cost effectiveness of this proposal. In doing this all costs were divided equally among the two primary pollutants. This approach considers the emission standards as a combined design objective to be met by the manufacturers. The costs effectiveness values corresponding to these two alternatives are as follows:

Cost Effectiveness of Proposed Regulations ($/ton)

HC	CO
139–201	10–12

The range of cost effectiveness values reflects the range of emission reductions per vehicle as discussed under "Environmental Impact". Further details are considered in the Regulatory Analysis.

It is not possible to present the individual cost effectiveness values of each element (e.g., change in durability testing, change in AQL, etc.) of this proposal due to insufficient data.

[3] "Emission-Related Maintenance Intervals for Light-Duty Trucks and Heavy-Duty Engines," R. Rykowski, EPA Report SDSB 79–02, January 1979.

[4] Appendix E to "Mobile Source Emissions Factors—Final Document", EPA, Office of Air and Waste Management, EPA–400/9–78–005, March 1978.

Moreover, the individual elements are interrelated which makes it difficult to isolate the benefits for each element. Removing one element might seriously jeopardize the effectiveness of the other elements. Therefore, the overall cost effectiveness for the total compliance strategy was evaluated as a whole.

The Regulatory Analysis compares the above cost effectiveness values with those of other emission control strategies. This comparison shows that the proposed action is cost effective for the entire ranges of EPA's estimates. However, it also makes it clear that maximizing the emission reductions through effective implementation of the revised useful life and durability requirements plus LDT I/M programs makes a significant improvement in cost effectiveness.

Request for Comments

EPA invites public comment on all aspects of the proposed action. EPA specifically requests comments and relevant information on the following:

1. *Calculation of the 1969 Baseline.* Section 202(a)(3)(ii) requires specified reductions "from the average of the actually measured emissions from . . . vehicles or engines . . . manufactured during the baseline model year." Comments are invited relating to the development of this baseline data, the derivation of the standards and their application to LDTs. Comments are also invited on materials describing the baseline testing program which have been placed in the public docket.

2. *Idle standards.* Comments are solicited regarding EPA's proposing of the heavy-duty proposed idle levels for LDTs.

3. *Feasibility.* EPA requests comments on the feasibility of compliance with the proposed standards for 1983. Comments should separately address the feasibility of compliance by gasoline-fueled and diesel LDTs. In order that EPA may fairly evaluate the technical merit of all comments on feasibility, the Agency requests that comments be accompanied by supporting data or other information.

(a) For diesel LDTs, additional comments should address feasibility both with and without the proposed crankcase emission standard. Comments on the feasibility of more stringent HC and CO standards than those proposed herein are also requested.

(b) For gasoline-fueled LDTs, additional comments on the feasibility of more stringent HC and CO standards than those proposed herein are also requested.

(c) Comments are requested on the effect of vehicle weight on compliance with these proposed regulations as it relates to the feasibility of meeting the standards and lead time.

4. *Catalyst Durability and Deterioration.* This preamble has discussed the data now available to EPA on the durability of oxidation catalysts under in-use operation and on their deterioration over extended periods of test track operation. EPA requests that manufacturers submit other data to the public record. Manufacturers should take care when preparing such data for submittal to ensure that it includes as much relevant information on the characteristics of the test vehicles and their emission control systems as is compatible with the manufacturer's need to protect confidentiality.

5. *Cost of Compliance.* EPA requests comments on the cost of compliance with the proposed exhaust emission standards and with the proposed crankcase emission standard for diesel LDTs. EPA also solicits comments on the costs associated with meeting a 10 percent AQL for SEA. Comments on the cost methodology used in EPA's Regulatory Analysis are welcomed. Information on the cost of compliance should be submitted using a level of detail that is the same or finer than that used in EPA's cost analysis.

6. *Diagnostics.* EPA's environmental impact analysis indicates that detection and correction of in-use vehicles with high emissions will be important to the success of the proposed regulations. EPA therefore requests information from manufacturers on diagnostic characteristics of the emission control systems they might use to comply which would facilitate such detection.

7. *Nonconformance Penalty.* EPA invites comments on all aspects of the proposal for a nonconformance penalty system, including EPA's interpretation of Congressional intent regarding the availability of a nonconformance penalty alternative. EPA particularly requests comments on the proposed formula for computing noncompliance penalties. Comments should address the marginal cost (including indirect costs such as increased operating costs) of compliance near the levels of the proposed standards. Supporting data and other information should accompany such comments whenever possible. Comment is also requested on what emission levels should be used as upper limits above which certification is not allowed, if the commentor contends that the proposed standards themselves are not practicable. Such levels should be based upon the lowest emission levels that the manufacturer projects it will be able to achieve.

8. Comments are requested on the proposed changes to useful life and allowable maintenance. In particular, comments should address the effect of these items on compliance with the proposed standards and any anti-competitive effects resulting from the allowable maintenance provisions.

9. EPA requests comments on any interactions between the proposals of this NPRM and the recently proposed Light-Duty Diesel particulate regulations and the Heavy-Duty Gaseous regulations. Comments should address lead time, feasibility and cost issues.

10. Comments are requested on the light-duty truck class definition, including the proposed definition of "special features enabling off-street or off-highway operation and use." EPA is evaluating the need for other changes to the light-duty definition, and comments should address any other changes considered desirable by commentors.

Availability of Supporting Information and Other Documents

EPA has placed into Public Docket No. OMSAPC–79–2 the information it used in the development of this proposal, including EPA's Regulatory Analysis. In addition, interested parties should refer to Public Docket OMSAPC–78–4, established for the recently proposed Heavy-Duty Gaseous Emission Regulations, which contains information relevant to this present proposal. These dockets are located at the:

U.S. Environmental Protection Agency, Central Docket Section, Waterside Mall, Room 2903B (EPA Library), 401 M Street, S.W., Washington, D.C. 20460

EPA will place copies of public comments into the docket as they are received. Interested persons may inspect and copy, or have copied, these materials at the above location between 8:00 a.m. and 4:00 p.m., Monday through Friday. (As provided in 40 CFR, Part 2, the Agency may charge a reasonable fee for copying services.)

Evaluation Plan: EPA intends to review the effectiveness and need for continuation of the provisions contained in this action no more than five years after initial implementation of the final regulation. In particular, EPA will solicit comments from affected parties with regard to cost and other burdens associated with compliance and will also review data on the emissions from light-duty trucks built before and after promulgation of the regulation to

determine how effective this measure has been.

Reporting and Recordkeeping Requirements: The proposed SEA program would add the requirement that any manufacturer conducting its own assembly-line testing program is required to submit on a quarterly basis all data from that testing. While EPA is not aware that these proposed regulations would impose any other significant new or additional reporting or recordkeeping requirements on affected parties, the Agency specifically invites comments on ways that any such burdens might be reduced.

Under the EPA's new "sunset" policy for reporting requirements in regulations, the reporting requirements in this regulation will automatically expire five years from the date of promulgation, unless EPA takes affirmative action to extend them. To accomplish this, a provision automatically terminating the reporting requirements at that time will be included in the text of the final regulation.

Note.—The Administrator has determined that this action proposes a "significant" regulation. The Agency has prepared a document entitled "Regulatory Analysis of Proposed Emission Regulations for 1983 and Later Model Year Light-Duty Trucks" detailing the Regulatory Analysis required by Executive Order 12044. This document also includes the Economic Impact Assessment required by Section 317 of the amended Clean Air Act and the Draft Environmental Impact Statement for the proposed action. Anyone may review and copy, or have copied, this document in the EPA Central Docket Section as described above in the paragraph headed "Availability of Supporting Information and Other Documents". Copies are also available upon request from the Director, Emission Control Technology Division, Office of Mobile Source Air Pollution Control, 2565 Plymouth Road, Ann Arbor, MI 48105.

Dated: June 28, 1979.

Douglas M. Costle,

The Administrator.

PART 86—CONTROL OF AIR POLLUTION FROM NEW MOTOR VEHICLES AND NEW MOTOR VEHICLE ENGINES: CERTIFICATION AND TEST PROCEDURES

Part 86 of Chapter I, Title 40 of the Code of Federal Regulations is proposed to be amended as follows:

Note.—This Notice of Proposed Rulemaking concerns only provisions of Part 86 applicable to light-duty trucks. Certain of the proposed amendments listed here, if read literally, might indicate that provisions currently in effect for heavy-duty engines are to be retained. This is not the case. Another, independent Notice of Proposed Rulemaking concerning only provisions of Part 86 applicable to heavy-duty engines recently has been or will shortly be published. Interested persons should consult that Notice regarding the heavy-duty engine amendments proposed to take effect concurrently with the light-duty truck amendments being proposed here.

Certain of the proposed amendments listed here repeat provisions of an earlier Notice of Proposed Rulemaking for regulations for the control of particulate emissions from 1981 and later model year light-duty diesel vehicles and light-duty trucks (44 FR 9464, February 13, 1979). The repetition makes it clear that if those regulations and the regulations proposed here are adopted as final, the particulate emission standard for 1983 and later model year light-duty trucks will apply for the redefined useful life being proposed here (see number 1 of the amendments listed here), and that compliance with the standards will be determined using the same revised procedure being proposed here for the 1983 gaseous exhaust emission standards (see number 10 of the amendments listed here). The two proposed rulemakings are independent, however.

Subpart A—General Provisions for Emission Regulations for 1977 and Later Model Year New Light-Duty Vehicles, 1977 and Later Model Year New Light-Duty Trucks, and for 1977 and Later Model Year New Heavy-Duty Engines

Sec.

* * * * *

86.083–2 Definitions.
86.083–4 Section numbering; construction.
86.083–9 Emission standards for 1983 light-duty trucks.
86.083–21 Application for certification.
86.083–22 Approval of application for certification; test fleet selections; determinations of parameters subject to adjustment for certification and Selective Enforcement Audit, adequacy of limits, and physically adjustable ranges.
86.083–23 Required data.
86.083–24 Test vehicles and engines.
86.083–25 Maintenance.
86.083–26 Mileage and service accumulation; emission measurements.
86.083–28 Compliance with emission standards.
86.083–30 Certification.
86.083–35 Labeling.
86.083–38 Maintenance instructions.

Authority: Secs. 202, 206, 208, and 301(a), Clean Air Act as amended [42 U.S.C. 7521, 7525, 7542, and 7601(a)].

1. A new § 86.083–2 is proposed to read:

§ 86.083–2 Definitions.

The following definitions apply beginning with the 1983 model year. Section 86.080–2 remains effective excepting those definitions which are hereby superseded.

(a) "Approach angle" means the smallest angle in a plan side view of an automobile, formed by the level surface on which the automobile is standing and a line tangent to the front tire static loaded radius arc and touching the underside of the automobile forward of the front tire.

(b) "Axle clearance" means the vertical distance from the level surface on which an automobile is standing to the lowest point on the axle differential of the automobile.

(c) "Breakover angle" means the supplement of the largest angle, in the plan side view of an automobile, that can be formed by two lines tangent to the front and rear static loaded radii arcs and intersecting at a point on the underside of the automobile.

(d) "Curb-idle" means:

(1) For manual transmission code light-duty trucks, the engine speed with the transmission in neutral or with the clutch disengaged and with the air conditioning system, if present, turned off. For automatic transmission code light-duty trucks, curb-idle means the engine speed with the automatic transmission in the Park position (or the Nuetral position if there is no Park position), and with the air conditioning system, if present, turned off.

(2) For manual transmission code heavy-duty engines, the manufacturer's recommended engine speed with the transmission in neutral or with the clutch disengaged. For automatic transmission code heavy-duty engines, curb-idle means the manufacturer's recommended engine speed with the automatic transmission in gear and the output shaft stalled.

(e) "Departure angle" means the smallest angle, in a plan side view of an automobile, formed by the level surface on which the automobile is standing and a line tangent to the rear tire static loaded radius arc and touching the underside of the automobile rearward of the rear tire.

(f) "Non-emission related maintenance" means that maintenance which does not substantially affect emissions and which does not have a lasting effect on the deterioration of the vehicle or engine with respect to emissions once the maintenance is performed at any particular date.

(g) "Emission-related maintenance" means that maintenance which does substantially affect emissions or which is likely to affect the deterioration of the vehicle or engine with respect to emissions, even if the maintenance is performed at some time other than that which is recommended.

(h) "Scheduled maintenance" means any adjustment, repair, removal, disassembly, cleaning, or replacement of vehicle components or systems which is performed on a periodic basis to prevent part failure or vehicle (if the engine were

installed in a vehicle) malfunction, or anticipated as necessary to correct an overt indication of vehicle malfunction or failure for which periodic maintenance is not appropriate.

(i) "Unscheduled maintenance" means any adjustment, repair, removal, disassembly, cleaning, or replacement of vehicle components or systems which is performed to correct a part failure or vehicle (if the engine were installed in a vehicle) malfunction which was not anticipated.

(j) "Special features enabling off-street or off-highway operation and use" means a vehicle:

(1) That has 4-wheel drive; and

(2) That has at least four of the following characteristics calculated when the automobile is at curb weight, on a level surface, with the front wheels parallel to the vehicle's longitudinal centerline, and the tires inflated to the manufacturers recommended pressure;

(i) Approach angle of not less than 28 degrees.

(ii) Breakover angle of not less than 14 degrees.

(iii) Departure angle of not less than 20 degrees.

(iv) Running clearance of not less than 8 inches.

(v) Front and rear axle clearances of not less than 7 inches each.

(k) "Static loaded radius arc" means a portion of a circle whose center is the center of a standard tire-rim combination of an automobile and whose radius is the distance from that center to the level surface on which the automobile is standing, measured with the automobile at curb weight, the wheel parallel to the vehicle's longitudinal centerline, and the tire inflated to the manufacturer's recommended pressure.

(l) "Useful life" means:

(1) For light-duty vehicles a period of use of 5 years or 50,000 miles, whichever first occurs.

(2) For gasoline-fueled heavy-duty engines a period of use of 5 years or 50,000 miles of vehicle operation or 1,500 hours of engine operation (or an equivalent period of 1,500 hours of dynamometer operation), whichever first occurs.

(3) For Diesel heavy-duty engines a period of use of 5 years or 100,000 miles of vehicle operation or 3,000 hours of engine operation (or an equivalent period of 1,000 hours of dynamometer operation), whichever first occurs.

(4) For light-duty trucks the average period of use up to vehicle retirement or engine rebuild or replacement, whichever occurs first, as determined by the manufacturer. However, if the manufacturer determines that this period of use is less than 5 years or 50,000 miles (or the equivalent) whichever occurs first, the useful life shall be a period of use of 5 years or 50,000 miles (or the equivalent), whichever occurs first, as required by section 202(d)(2) of the Act. The manufacturer shall not determine the useful life to be less than the period of the basic mechanical warranty on the engine assembly.

2. A new § 86.083–4 is proposed to read:

§ 86.083–4 Section numbering; construction.

(a) *Section numbering.* (1) The model year of initial applicability is indicated by the last two digits of the 5-digit group. A section remains in effect for subsequent model years until it is superseded. The number following the hyphen designates what previous section is replaced by a future regulation.

Examples: Section 86.077–6 applies to the 1977 and subsequent model years until superseded. If a § 86.080–6 is promulgated it would take effect with the 1980 model year; § 86.077–6 would not apply after the 1979 model year. Section 86.077–10 would be replaced by § 86.078–10 beginning with the 1978 model year.

(2) Where a section still in effect references a section that has been superseded, the reference shall be interpreted to mean the superseding section.

(b) *Construction.* Except where indicated, the language in this subpart applies to both vehicles and engines. In many instances language referring to engines is enclosed in parentheses and immediately follows the language discussing vehicles.

3. A new § 86.083–9 is proposed to read:

§ 86.083–9 Emission standards for 1983 light-duty trucks.

(a)(1) Exhaust emissions from 1983 and later model year light-duty trucks shall not exceed:

(i) *Hydrocarbons.* (A) 0.8 gram per vehicle mile.

(B) 970 parts per million (as carbon) of exhaust flow at curb idle.

(ii) *Carbon Monoxide.* (A) 10 grams per vehicle mile.

(B) 0.47 percent of exhaust gas flow at curb idle.

(iii) *Oxides of Nitrogen.* (A) 2.3 grams per mile.

(iv) *Particulate Emissions.* (Diesel only). 0.20 gram per vehicle mile (0.12 gram per vehicle kilometer).

(2) The standards set forth in paragraphs (a)(1)(i)(A), (a)(1)(ii)(A), (a)(1)(iii), and (a)(1)(iv) of this section refer to the exhaust emitted over a driving schedule as set forth in Subpart B and measured and calculated in accordance with those procedures. The standards set forth in paragraphs (a)(1)(i)(B) and (a)(1)(ii)(B) of this section refer to the exhaust emitted at curb idle and measured and calculated in accordance with the procedures set forth in Subpart P of this part.

(b)(1) Fuel evaporative emissions from 1983 and later model year gasoline-fueled light-duty trucks shall not exceed:

(i) *Hydrocarbons.* 2.0 grams per test.

(2) The standard set forth in paragraph (b)(1) of this section refers to a composite sample of the fuel evaporative emissions collected under the conditions set forth in Subpart B and measured in accordance with those procedures.

(c) No crankcase emissions shall be discharged into the ambient atmosphere from any 1983 and later model year light-duty truck.

4. A new § 86.083–21 is proposed to read:

§ 86.083–21 Application for certification.

(a) A separate application for a certificate of conformity shall be made for each set of standards and each class of new motor vehicles or new motor vehicle engines. Such application shall be made to the Administrator by the manufacturer and shall be updated and corrected by amendment.

(b) The application shall be in writing, signed by an authorized representative of the manufacturer, and shall include the following:

(1)(i) *All vehicles and engines.* Identification and description of the vehicles (or engines) covered by the application and a description of their engine (vehicles only), emission control system and fuel system components. This shall include a detailed description of each auxiliary emission control device (AECD) to be installed in or on any certification test vehicle (or certification test engine).

(ii) *Light-duty vehicles and light-duty trucks only.* (A) The manufacturer shall provide to the Administrator in the preliminary application for certification:

(*1*) A list of those parameters which are physically capable of being adjusted (including those adjustable parameters for which access is difficult) and that, if adjusted to settings other than the manufacturer's recommended settling, may affect emissions;

(*2*) A specification of the manufacturer's intended physically adjustable range of each such parameter, and the production

tolerances of the limits or stops used to establish the physically adjustable range;

(3) A description of the limits or stops used to establish the manufacturer's intended physically adjustable range of each adjustable parameter, or any other means used to inhibit adjustment;

(4) The nominal or recommended setting, and the associated production tolerances, for each such parameter.

(B) The manufacturer may provide, in the preliminary application for certification, information relating to why certain parameters are not expected to be adjusted in actual use and to why the physical limits or stops used to establish the physically adjustable range of each parameter, or any other means used to inhibit adjustment, are expected to be effective in preventing adjustment of parameters on in-use vehicles to settings outside the manufacturer's intended physically adjustable ranges. This may include results of any tests to determine the difficulty of gaining access to an adjustment or exceeding a limit as intended or recommended by the manufacturer.

(C) The Administrator may require to be provided detailed drawings and descriptions of the various emission related components, and/or hardware samples of such components, for the purpose of making his determination of which vehicle or engine parameters will be subject to adjustment for new certification and Selective Enforcement Audit testing and of the physically adjustable range for each such vehicle or engine parameter.

(2) Projected U.S. sales data, sufficient to enable the Administrator to select a test fleet representative of the vehicles (or engines) for which certification is requested.

(3) A description of the test equipment and fuel proposed to be used.

(4)(i) A description of the proposed mileage (or service) accumulation procedures for durability testing.

(ii) A description of the test procedures to be used to establish the evaporative emission deterioration factors required to be determined and supplied in § 86.083–23(b)(2).

(iii) [Reserved]

(iv)(A) A description of the test procedures to be used to establish the preliminary exhaust emission deterioration factors for light-duty trucks required to be determined and supplied in § 86.083–23(b)(4).

(B) A statement of the useful life of each light-duty truck as determined by the manufacturer. The useful life shall be expressed as a period of vehicle operation or as an equivalent vehicle mileage (or both). The manufacturer shall include in the application the information or data on which it based its determination of the useful life.

(5) A statement of recommended maintenance and procedures necessary to assure that the vehicles (or engines) covered by a certificate of conformity in operation conform to the regulations, and a description of the program for training of personnel for such maintenance, and the equipment required.

(6) At the option of the manufacturer, the proposed composition of the emission-data and durability-data test fleet.

(c) Complete copies of the application and of any amendments thereto, and all notifications under §§ 86.079–32, 86.079–33, and 86.079–34 shall be submitted in such multiple copies as the Administrator may require.

(d) Incomplete light duty trucks shall have a maximum completed curb weight and maximum completed frontal area specified by the manufacturer.

5. A new § 86.083–22 is proposed to read:

§ 86.083–22 Approval of application for certification; test fleet selections; determinations of parameters subject to adjustment for certification and Selective Enforcement Audit, adequacy of limits, and physically adjustable ranges.

(a) After a review of the application for certification and any other information which the Administrator may require, the Administrator may approve the application and select a test fleet in accordance with § 86.080–24.

(b) The Administrator may disapprove in whole or in part an application for certification for reasons including incompleteness, inaccuracy, inappropriate proposed mileage (or service) accumulation procedures, test equipment, or fuel, and incorporation of defeat devices in vehicles (or on engines) described by the application.

(c) Where any part of an application is rejected, the Administrator shall notify the manufacturer in writing and set forth the reasons for such rejection. Within 30 days following receipt of such notification, the manufacturer may request a hearing on the Administrator's determination. The request shall be in writing, signed by an authorized representative of the manufacturer and shall include a statement specifying the manufacturer's objections to the Administrator's determinations, and data in support of such objection. If, after the review of the request and supporting data, the Administrator finds that the request raises a substantial factual issue, he shall provide the manufacturer a hearing in accordance with § 86.078–6 with respect to such issue.

(d)(1) The Administrator does not approve the test procedures for establishing the evaporative emission deterioration factors. The manufacturer shall submit the procedures as required in § 86.083–21(b)(4)(ii) prior to the Administrator's selection of the test fleet under § 86.083–24(b)(1) and if such procedures will involve testing of durability-data vehicles selected by the Administrator or elected by the manufacturer under § 86.083–24(c)(1), prior to initiation of such testing.

(2) [Reserved]

(3) The Administrator does not approve the test procedures for establishing preliminary exhaust emission deterioration factors for light-duty trucks nor the manufacturer's determination of the useful life or lives of its light-duty trucks. The manufacturer shall submit the procedures and useful life determinations as required in § 86.083–21(b)(4)(iv) prior to the initation of durability testing.

(e) *Light-Duty vehicles and Light-Duty trucks only.* When the Administrator selects emission data vehicles for the test fleet, he will at the same time determine those vehicle or engine parameters which will be subject to adjustment during certification and Selective Enforcement Audit testing; the adequacy of the limits, stops, seals, or other means used to inhibit adjustment; and the resulting physically adjustable ranges for each such parameter and notify the manufacturer of his determinations.

(1)(i) The Administrator may determine to be subject to adjustment the idle fuel-air mixture, idle speed, and initial spark timing parameters on gasoline-fueled vehicles (carbureted or fuel injected); the choke valve action parameter(s) on carbureted, gasoline-fueled vehicles; or any parameter on any vehicle (Diesel or gasoline-fueled) which is physically capable of being adjusted, may significantly affect emissions, and was not present on vehicles of the same engine family in the previous model year.

(ii) The Administrator may, in addition, determine to be subject to adjustment any other parameter on any vehicle which is physically capable of being adjusted and which may significantly affect emissions. However, the Administrator may do so only if he has previously notified the manufacturer that he might do so and has found, at the time he gave this notice, that the

intervening period would be adequate to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period. In no event will this notification be given later than September 1 of the calendar year two years prior to the model year.

(iii) In determining the parameters subject to adjustment the Administrator will consider the likelihood that, for each of the parameters listed in paragraphs (e)(1)(i) and (e)(1)(ii) of this section, settings other than the manufacturer's recommended setting will occur on in-use vehicles. In determining likelihood, the Administrator will consider such factors as, but not limited to, information contained in the preliminary application, surveillance information from similar in-use vehicles, the difficulty and cost of gaining access to an adjustment, damage to the vehicle if an attempt is made to gain such access and the need to replace parts following such attempt, and the effect of seitings other than the manufacturer's recommended setting on vehicle performance characteristics including emission characteristics.

(2)(i) The Administrator will determine a parameter to be adequately inaccessible or sealed if:

(A) In the case of an idle mixture screw, the screw is recessed within the carburetor casting and sealed with lead, thermosetting plastic, or an inverted elliptical spacer or sheared off after adjustment at the factory, and the inaccessibility is such that the screw cannot be accessed and/or adjusted with simple tools in one-half hour or for $20 (1978 dollars) or less.

(B) In the case of a choke bimetal spring, the plate covering the bimetal spring is riveted or welded in place, or held in place with nonreversible screws.

(C) In the case of a parameter which may be adjusted by elongating or bending adjustable members (e.g., the choke vacuum break), any elongation of the adjustable member is limited by design, or in the case of a bendable member, the member is constructed of a material which when bent would return to its original shape after the force is removed (plastic or spring steel materials).

(D) In the case of any parameter, the manufacturer demonstrates that adjusting the parameter to settings other than the manufacturer's recommended setting takes more than one-half hour or costs more than $20 (1978 dollars).

(ii) The Administrator will determine a physical limit or stop to be an adequate restraint on adjustability if:

(A) In the case of a threaded adjustment, the threads are terminated, pinned or crimped so as to prevent additional travel without breakage or need for repairs which take more than one-half hour or cost more than $20 (1978 dollars).

(B) The adjustment is ineffective at the end of the limits of travel regardless of additional forces or toques applied to the adjustment.

(C) The manufacturer demonstrates that travel or rotation limits cannot be exceeded with the use of simple and inexpensive tools (e.g., screwdriver, pliers, open-end or box wrenches) without incurring significant and costly damage to the vehicle or control system or without taking more than one-half hour or costing more than $20 (1978 dollars).

(iii) If manufacturer service manuals or bulletins describe routine procedures for gaining access to a parameter or for removing or exceeding a physical limit, stop, seal or other means used to inhibit adjustment, or if surveillance data indicate that gaining access, removing, or exceeding is likely, paragraphs (e)(2)(i) and (e)(2)(ii) of this section shall not apply for that parameter.

(iv) In determining the adequacy of a physical limit, stop, seal, or other means used to inhibit adjustment of a parameter not covered by paragraph (e)(2)(i) or (e)(2)(ii) of this section, the Administrator will consider the likelihood that it will be circumvented, removed, or exceeded on in-use vehicles. In determining likelihood the Administrator will consider such factors as, but not limited to, information contained in the preliminary application; surveillance information from similar in-use vehicles; the difficulty and cost of circumventing, removing, or exceeding the limit, stop, seal, or other means; damage to the vehicle if an attempt is made to circumvent, remove, or exceed it and the need to replace parts following such attempt; and the effect of settings beyond the limit, stop, seal, or other means on vehicle performance characteristics other than emission characteristics.

(3) The Administrator shall determine two physically adjustable ranges for each parameter subject to adjustment.

(i)(A) In the case of a parameter determined to be adequately inaccessible or sealed, the Administrator may include within the physically adjustable range applicable to testing under §§ 86.079–23 and 86.081–29 (certification testing) all settings within the production tolerance associated with the nominal setting for that parameter, as specified by the manufacturer in the preliminary application for certification.

(B) In the case of other parameters, the Administrator shall include wihin this range all settings within physical limits or stops determined to be adequate restraints on adjustability. The Administrator may also include the production tolerances on the location of these limits or stops when determining the physically adjustable range.

(ii)(A) In the case of a parameter determined to be adequately inaccessible or sealed, the Administrator shall include within the physically adjustable range applicable to testing under § 86.608 (Selective Enforcement Audit testing) only the actual setting to which the parameter is adjusted during production.

(B) In the case of other parameters, the Administrator shall include wihin this range all settings within physical limits or stops determined to be adequate restraints on adjustability, as they are actually located and effective on the test vehicle.

(f) If the manufacturer submits the information specified in § 86.081–21(b)(1)(ii) in advance of its full preliminary application for certification, the Administrator shall review the information and make the determinations require in paragraph (e) of this section.

(g) Within 30 days following receipt of notification of the Administrator's determinations made under paragraph (e) of this section, the manufacturer may request a hearing on the Administrator's determinations. The request shall be in writing, signed by an authorized representative of the manufacturer, and shall include a statement specifying the manufactuer's objections to the Administrator's determinations, and data in support of such objections. If, after review of the request and supporting data, the Administrator finds that the request raises a substantial factural issue, he shall provide the manufacturer a hearing in accordance with § 86.078–6 with respect to such issue.

6. A new § 86.083–23 is proposed to read:

§ 86.083–23 Required data.

(a) The manufacturer shall perform the tests required by the applicable test procedures, and submit to the Administrator the following information: *Provided, however,* That:

(1) If requested by the manufacturer, the Adminstrator may waive any requirement of this section for testing of vehicles (or engines) for which emission data are available, or will be made

available, under the provisions of § 86.079–29, or

(2) If requested by the manufacturer, the Administrator may waive any requirement of this section for testing of vehicles at zero kilometers of operation.

(b)(1) Exhaust emission durability data on such vehicles (or engines) tested in accordance with applicable test procedures and in such numbers as specified, which will show the performance of the systems installed on or incorporated in the vehicle (or engine) for extended mileage (or extended operation), as well as a record of all pertinent maintenance (all maintenance and servicing for diesel heavy-duty engines) performed on the test vehicles (or test engines).

(2) Evaporative emission deterioration factors for each evaporative emission family-evaporative emission control system combination and all test data that are derived from testing described under § 86.083–21(b)(4)(ii) designed and conducted in accordance with good engineering practice to assure that the vehicles covered by a certificate issued under § 86.083–30 will meet the evaporative emission standards in § 86.061–8 or § 86.083–9, as appropriate, for the useful life of the vehicle.

(3) [Reserved]

(4) For each light-duty truck engine family-emission control system combination for which application for certification is made for the first time, preliminary exhaust emission deterioration factors and all test data that are derived from testing described under § 86.083–21(b)(4)(iv) designed and conducted in accordance with good engineering practice to assure that the engines covered by a certificate issued under § 86.083–30 will meet the emission standards in § 86.083–9 for the useful life of the vehicle.

(c) Emission data. (1) *Certification vehicles.* (i) Emission data on such vehicles tested in accordance with applicable test procedures and in such numbers as specified, which will show their emissions after zero kilometers (zero miles) and 6,436 kilometers (4,000 miles) of operation.

(ii) Emission data on those vehicles selected under § 86.079–24(b)(1)(v) and § 86.079–24(b)(1)(vii)(D) and tested in accordance with the applicable test procedures of this subpart and in such numbers as therein specified, which shall be tested at zero kilometers (zero miles) at any altitude, and under high-altitude conditions after 6,436 kilometers (4,000 miles) of operation at any altitude.

(2) *Certification engines.* Emission data on such engines tested in accordance with applicable emission test procedures and in such numbers as specified which will show their emissions after 125 hours of operation. A zero-hour test may be performed after the engine has been approved by the Administrator to begin service accumulation.

(d) A statement that the vehicles (or engines) for which certification is requested conform to the requirements in § 86.078–5(b), and that the descriptions of tests performed to ascertain compliance with the general standards in § 86.078–5(b), and the data derived from such tests, are available to the Administrator upon request.

(e) (1) A statement that the test vehicles (or test engines) with respect to which data are submitted to demonstrate compliance with §§ 86.078–8, 86.079–9, 86.079–10, 86.079–11, 86.080–10, or 86.080–11, as applicable, are in all material respects as described in the manufacturer's application for certification, have been tested in accordance with the applicable test procedures utilizing the fuels and equipment described in the application for certification and that on the basis of such tests the vehicles (or engines) conform to the requirements of the regulations in this part. If such statements cannot be made with respect to any vehicle (or engine) tested, the vehicle (or engine) shall be identified, and all pertinent data relating thereto shall be supplied to the Administrator. If, on the basis of the data supplied and any additional data as required by the Administrator, the Administrator determines that the test vehicle (or test engine) was not as described in the application for certification or was not tested in accordance with the applicable test procedures utilizing the fuels and equipment as described in the application for certification, the Administrator may make the determination that the vehicle (or engine) does not meet the applicable standards. The provisions of § 86.079–30(b) shall then be followed.

(2) For evaporative emission durability or light-duty truck exhaust emission durability, the statement of compliance with paragraph (b)(2) or (b)(4) of this section.

7. A new § 86.083–24 is proposed to read:

§ 86.083–24 Test vehicles and engines.

(a)(1) The vehicles or engines covered by an application for certification will be divided into groupings of engines which are expected to have similar emission characteristics throughout their useful life. Each group of engines with similar emission characteristics shall be defined as a separate engine family.

(2) To be classed in the same engine family, engines must be identical in all the following respects:

(i) The cylinder bore center-to-center dimensions.

(ii) The dimension from the centerline of the crankshaft to the centerline of the camshaft.

(iii) The dimension from the centerline of the crankshaft to the top of the cylinder block head face.

(iv) The cylinder block configuration (air cooled or water cooled; L–6, 90°, V–8, etc.).

(v) The location of intake and exhaust valves (or ports) and the valve (or port) sizes (within a ⅛-inch range on the valve head diameter or within 10 percent on the port area).

(vi) The method of air aspiration.

(vii) The combustion cycle.

(viii) Catalytic converter characteristics.

(ix) Thermal reactor characteristics.

(x) Type of air inlet cooler (e.g., intercoolers and aftercoolers) for diesel heavy-duty engines.

(3)(i) Engines identical in all the respects listed in paragraph (a)(2) of this section may be further divided into different engine families if the Administrator determines that they may be expected to have different emission characteristics. This determination will be based upon a consideration of the following features of each engine:

(A) The bore and stroke.

(B) The surface-to-volume ratio of the nominally dimensioned cylinder at the top dead center positions.

(C) The intake manifold induction port size and configuration.

(D) The exhaust manifold port size and configuration.

(E) The intake and exhaust valve sizes.

(F) The fuel system.

(G) The camshaft timing and ignition or injection timing characteristics.

(ii) [Reserved]

(iii) Light-duty trucks produced in different model years and distinguishable in the respects listed in paragraph (a)(2) of this section shall be treated as belonging to a single engine family if the Administrator requires it, after determining that the engines may be expected to have similar emission deterioration characteristics.

(4) Where engines are of a type which cannot be divided into engine families based upon the criteria listed in paragraphs (a) (2) and (3) of this section, the Administrator will establish families for those engines based upon those

features most related to their emission characteristics.

(5) The gasoline-fueled vehicles covered by an application for certification will be divided into groupings which are expected to have similar evaporative emission characteristics throughout their useful life. Each group of vehicles with similar evaporative emission characteristics shall be defined as a separate evaporative emission family.

(6) To be classed in the same evaporative emission family, vehicles must be similar with respect to:

(i) Type of vapor storage device (e.g., canister, air cleaner, crankcase).

(ii) Basic canister design.

(iii) Fuel system.

(7) Where vehicles are of a type which cannot be divided into evaporative emission families based on the criteria listed above, the Administrator will establish families for those vehicles based upon the features most related to their evaporative emission characteristics.

(b) Emission data. (1) *Emission-data vehicles.* Paragraph (b)(1) of this section applies to light-duty vehicle and light-duty truck emission-data vehicles.

(i) Vehicles will be chosen to be operated and tested for emission data based upon the engine family groupings. Within each engine family, the requirements of this paragraph must be met.

(ii) Vehicles within an engine family will be divided into engine displacement-exhaust emission control system combinations as applicable. A projected sales volume will be established for each combination for the model year for which certification is sought. One vehicle of each combination will be selected in order of decreasing projected sales volume until 70 percent of the projected sales of a manufacturer's total production of vehicles of that engine family is represented, or until a maximum of four vehicles is selected. If any single combination represents over 70 percent, then two vehicles of that combination may be selected. The vehicles selected for each combination will be specified by the Administrator as to such features as engine code, transmission type, fuel system, inertia weight class, and test weight.

(iii) The Administrator may select a maximum of four additional vehicles within each engine family based upon features indicating that they may have the highest emission levels of the vehicles in that engine family. In selecting these vehicles, the Administrator will consider such features as the emission control system combination, induction system characteristics, ignition system characteristics, fuel system, rated horsepower, rated torque, compression ratio, inertia weight class, test weight, transmission options, and axle ratio.

(iv) If the vehicles selected in accordance with paragraphs (b)(1) (ii) and (iii) of this section do not represent each engine-system combination, then one vehicle of each engine-system combination not represented will be selected by the Administrator. The vehicle selected shall be of the engine displacement with the largest projected sales volume of vehicles with the control system combination in the engine family and will be designated by the Administrator as to such features as engine code, transmission type, fuel system, inertia weight class, and test weight.

(v) The Administrator may select one additional vehicle for each engine-system combination with which a manufacturer chooses to demonstrate compliance with applicable emission standards at high altitude.

(vi) The Administrator may combine testing requirements for any vehicles selected under paragraph (b)(1)(v) or (b)(1)(vii)(D) of this section with the testing requirements for any similar vehicle in the same engine-system combination selected under paragraph (b)(1) (ii), (iii), or (iv) of this section or any similar vehicle in the same engine-system, evaporative emission family evaporative emission control system combination selected under paragraph (b)(1)(vii) (A) or (B) of this section. The testing requirements may be combined by the Administrator by requiring a vehicle selected for testing under paragraphs (b)(1) (ii), (iii), (iv) (vii)(A), or (vii)(B) of this section to be modified (if necessary) after mileage accumulation and emission testing for the purpose of demonstrating compliance with § 86.079–23(c)(1)(ii).

(vii) (A) Vehicles of each evaporative emission family will be divided into evaporative emission control systems. One vehicle of each evaporative emission control system within the evaporative emission family will be selected.

(B) The Administrator may select a maximum of four additional vehicles within each evaporative emission family based upon features indicating that they may have the highest evaporative emission levels of vehicles in that family.

(C) The Administrator may determine that the vehicles selected under paragraphs (b)(1) (ii) through (iv) of this section may be used to satisfy the requirements of paragraphs (b)(1)(vii) (A) and (B) of this section.

(D) The Administrator may also select one additional vehicle for each evaporative emission control system within each evaporative family for those vehicles with which the manufacturer chooses to demonstrate compliance with applicable emission standards at high altitude.

(E) Vehicles selected under (b)(1)(v) may be used to satisfy the requirements of (b)(1)(vii)(D).

(2) *Gasoline-fueled heavy-duty emission-data engines.* Paragraph (b)(2) of this section applies to gasoline-fueled heavy-duty engines.

(i) Engines will be chosen to be run for emission data based upon engine family groupings. Within each engine family, the requirements of this paragraph must be met.

(ii) Engines of each engine family will be divided into engine displacement-exhaust emission control system combinations. A projected sales volume will be established for each combination for the applicable model year. One engine of each combination will be selected in order of decreasing projected sales volume until 70 percent of the projected sales of a manufacturer's total production of engines of that family is represented, or until a maximum of four engines is selected. The engines selected for each combination will be specified by the Administrator as to fuel system.

(iii) The Administrator may select a maximum of two additional engines within each engine family based upon features indicating that they may have the highest emission levels of the engines in that engine family. In selecting these engines, the Administrator will consider such features as the exhaust emission control system, induction system characteristics, ignition system characteristics, fuel system, rated horsepower, rated torque, and compression ratio.

(iv) If the engines selected in accordance with paragraphs (b)(2) (ii) and (iii) of this section do not represent each engine displacement-exhaust emission control system combination, then one engine of each engine displacement-exhaust emission control system combination not represented shall be selected by the Administrator.

(3) *Diesel heavy-duty emission-data engines.* Paragraph (b)(3) of this section applies to Diesel heavy-duty emission-data engines.

(i) Engines will be chosen to be run for emission data based upon engine family groupings. Within each engine family,

the requirements of this paragraph must be met.

(ii) Engines of each engine family will be divided into groups based upon exhaust emission control system. One engine of each engine-system combination shall be run for smoke emission data and gaseous emission data as prescribed in § 86.080–26(c)(3). Either the complete gaseous emission test or the complete smoke test may be conducted first. Within each combination, the engine that features the highest fuel feed per stroke, primarily at the speed of maximum rated torque and secondarily at rated speed, will usually be selected. If there are military engines with higher fuel rates than other engines in the same engine-system combination, then one military engine shall also be selected. The engine with the highest fuel feed per stroke will usually be selected.

(iii) The Administrator may select a maximum of one additional engine within one engine-system combination based upon features indicating that it may have the highest emission levels of the engines of that combination. In selecting this engine, the Administrator will consider such features as the injection system, fuel system, compression ratio, rated speed, rated horsepower, peak torque speed, and peak torque.

(c) Durability data: (1) *Light-duty vehicle durability-data vehicles.* Paragraph (c)(1) of this section applies to light-duty vehicle durability-data vehicles.

(i) A durability-data vehicle will be selected by the Administrator to represent each engine-system combination. The vehicle selected shall be of the engine displacement with the largest projected sales volume of vehicles with that control-system combination in that engine family and will be designated by the Administrator as to transmission type, fuel system, inertia weight class, and test weight.

(ii) A manufacturer may elect to operate and test additional vehicles to represent any engine-system combination. The additional vehicles must be of the same engine displacement, transmission type, fuel system and inertia weight class as the vehicle selected for that engine-system combination in accordance with the provisions of paragraph (c)(1)(i) of this section. Notice of an intent to operate and test additional vehicles shall be given to the Administrator not later than 30 days following notification of the test fleet selection.

(2) *Gasoline-fueled heavy-duty durability-data engines.* Paragraph (c)(2) of this section applies to gasoline-fueled heavy-duty durability-data engines.

(i) A durability-data engine will be selected by the Aministrator to represent each engine-system combination.

(ii) [Reserved]

(iii) A manufacturer may elect to operate and test additional engines to represent any engine-system combination. The additional engines must be of the same engine displacment and fuel system as the engine selected for that combination in accordance with the provisions of paragraph (c)(2)(i) of this section. Notice of an intent to run additional engines shall be given to the Administrator not later than 30 days following notification of the test fleet selection. Deterioration factors calculated for each engine-system combination shall be applied separately to military and nonmilitary engines within the same engine-system combination.

(3) *Diesel heavy-duty durability-data engines.* Paragraph (c)(3) of this section applies to Diesel heavy-duty durability-data engines.

(i) One engine from each engine-system combination shall be tested as prescribed in § 86.080–26(c)(3)(ii). At each test point, either the complete gaseous emission test or the complete smoke test may be conducted first. Within each combination, the engine which features the highest fuel feed per stroke, primarily at rated speed and secondarily at the speed of maximum rated torque, will usually be selected for durability testing. In the case where more than one engine in an engine-system combination has the highest fuel feed per stroke, the engine with the highest maximum rated horsepower will usually be selected for durability testing. If an engine-system combination includes both military and nonmilitary engines, then the nonmilitary engine with the highest maximum rated horsepower will usually be selected for durability testing.

(ii) A manufacturer may elect to operate and test additional engines to represent any engine-system combination. the additional engines must be of the same model and fuel system as the engine selected in accordance with the provisions of paragraph (c)(3)(i) of this section. Notice of an intent to test additional engines shall be given to the Administrator not later than 30 days following notification of the test fleet selection. Deterioration factors calculated for each engine-system combination shall be applied separately to military and nonmilitary engines within the same engine-system combination.

(4) *Light-duty truck durability-data vehicles.* Paragraph (c)(4) of this section applies to vehicles, engines, subsystems, or components to be used to establish preliminary exhaust emission deterioration factors for light-duty trucks, and to light-duty truck durability-data vehicles.

(i) The manufacturer shall select the vehicles, engines, subsystems, or components to be used to determine preliminary exhaust emission deterioration factors for each engine family control system combination for the initial year(s) of certification of the combination.

(ii) For each engine family-control system combination for which a manufacturer applies for a certificate of conformity with the applicable emission standards of § 86.083–9 for the first time, the manufacturer shall select at least three durability-data vehicles to represent the combination during the in-use mileage accumulation required by § 86.083–26(c). At least one of these three vehicles shall be of the engine displacement with the largest projected sales volume of vehicles in the combination. The selected vehicles shall be randomly selected production vehicles. Emission tests of any kind shall not be used to select specific production vehicles to be durability-data vehicles. The manufacturer shall notify the Administrator of the vehicle configuration(s) of the durability-data vehicles to be selected under this paragraph not later than when it submits the compiled information required by § 86.083–23. The manufacturer shall select specific production vehicles to be durability-data vehicles not later than two months after the start of production of the configuration(s).

(d) For purposes of testing under § 86.080–26 (a)(9), (b)(9) or (c)(11), the Administrator may require additional emission-data vehicles (or emission-data engines) and durability-data vehicles (or durability-data engines) identical in all material respects to vehicles (or engines) selected in accordance with paragraphs (b) and (c) of this section: *Provided,* That the number of vehicles selected shall not increase the size of either the emission-data fleet or the durability-data fleet by more than 20 percent or one vehicle, whichever is greater.

(e) Any manufacturer whose projected sales for the model year in which certification is sought is less than

(1) 2,000 gasoline-fueled light-duty vehicles, or

(2) 2,000 Diesel light-duty vehicles, or
(3) 2,000 gasoline-fueled light-duty trucks, or
(4) 2,000 Diesel light-duty trucks, or
(5) 700 gasoline-fueled heavy-duty engines, or
(6) 2,000 Diesel heavy-duty engines,

may request a reduction in the number of test vehicles (or engines) determined in accordance with the foregoing provisions of this section. The Administrator may agree to such lesser number as he determines would meet the objectives of this procedure.

(f) In lieu of testing an emission-data or durability-data vehicle (or engine) selected under paragraph (b) or (c) of this section, and submitting data therefor, a manufacturer may, with the prior written approval of the Administrator, submit exhaust emission data and/or fuel evaporative emission data, as applicable on a similar vehicle (or engine) for which certification has previously been obtained or for which all applicable data required under § 86.083–23 has previously been submitted. For light-duty truck durability data required to be obtained from in-use service accumulation, the Administrator will grant this approval only if each durability-data vehicle in an engine family-control system has completed service accumulation up to its useful life or up to the point at which it was no longer functional, as required by § 86.083–26(c).

(g)(1) This paragraph applies to light duty vehicles and light duty trucks.

(2) Where it is expected that more than 33 percent of a car line, within an engine-system combination, may be equipped with an item (whether that item is standard equipment or an option), the full estimated weight of that item shall be included in the curb weight computation of each vehicle available with that item in that carline, within that engine-system combination. Where it is expected that 33 percent or less of the carline, within an engine-system combination, will be equipped with an item (whether that item is standard equipment or an option) no weight for that item will be added in computing the curb weight for any vehicle in that carline, within that engine-system combination, unless that item is standard equipment on the vehicle. In the case of mutually exclusive options, only the weight of the heavier option will be added in computing the curb weight. Optional items weighing less than three pounds per item need not be considered.

(3) Where it is expected that more than 33 percent of a car line, within an engine-system combination, will be equipped with an item (whether that item is standard equipment or an option) that can reasonably be expected to influence emissions, then such items shall actually be installed, unless specifically excluded by the Administrator, on all emission data and durability data vehicles of that car line, within that engine-system combination, on which the items are intended to be offered in production. Items that can reasonably be expected to influence emissions are: air conditioning, power steering, power brakes, and other items determined by the Administrator.

(4) Where it is expected that 33 percent or less of a car line within an engine-system combination, will be equipped with an item (whether that item is standard equipment or an option) that can reasonably be expected to influence emissions, that item shall not be installed on any emission data vehicle or durability data vehicle of that car line, within that engine-system combination, unless that item is standard equipment on that vehicle or specifically required by the Administrator.

8. A new § 86.083–25 is proposed to read:

§ 86.083—25 Maintenance.

(a) *Light-duty vehicles.* Paragraph (a) of this section applies to light-duty vehicles.

(1) Scheduled maintenance on the engine, emission control system, and fuel system of durability-data vehicles, selected by the Administrator or elected by the manufacturer under § 86.079–24(c)(1), shall be scheduled for performance during durability testing at the same mileage intervals that will be specified in the manufacturer's maintenance instructions furnished to the ultimate purchaser of the motor vehicle. Such maintenance shall be performed, except as provided in paragraph (a)(5)(iii) of this section, only under the following provisions:

(i) Scheduled major engine tuneups to manufacturer's specifications may be performed no more frequently than every 12,500 miles of scheduled driving: *Provided,* That no tuneup may be performed after 45,000 miles of scheduled driving. A scheduled major engine tuneup shall be restricted to paragraph (a) (1) (i) (A) or (B) of this section, and shall be conducted in a manner consistent with service instructions and specifications provided by the manufacturer for use by customer service personnel.

(A) *For Gasoline-fueled vehicles,* the following items may be inspected, replaced, cleaned, adjusted, and/or serviced as required:

(*1*) Ignition system.
(*2*) Cold starting enrichment system (includes fast idle speed setting).
(*3*) Curb idle speed and air/fuel mixture.
(*4*) Drive belt tension on engine accessories.
(*5*) Valve lash.
(*6*) Inlet air and exhaust gas control valves.
(*7*) Engine bolt torque.
(*8*) Spark plugs.
(*9*) Fuel filter and air filter.
(*10*) Crankcase emission control system.
(*11*) Fuel evaporative emission control system.

(B) *For Diesel vehicles,* a major engine tuneup shall be restricted to the following:

(*1*) Adjust low idle speed.
(*2*) Adjust valve lash if required.
(*3*) Adjust injector timing.
(*4*) Adjust governor.
(*5*) Clean and service injector tips.
(*6*) Adjust drive belt tension on engine accessories.
(*7*) Check engine bolt torque and tighten as required.

(ii) Change of engine and transmission oil, and change or service of oil filter will be allowed at the same milage intervals that will be specified in the manufacturer's maintenance instructions. (iii) Readjustment of the engine idlespeed (curb idle and fast idle) may be performed, in addition to adjustment during scheduled major engine tuneups, once during the first 5,000 miles of vehicle operation.

(2) (i) *For gasoline-fueled vehicles,* unscheduled maintenance on the engine, emission control system, and fuel system of durability vehicles may be performed, except as provided in paragraph (a)(5)(i) of this section, only under the following provisions:

(A) Any persistently misfiring spark plug may be replaced, in addition to replacement at scheduled major engine tuneup points.

(B) Readjustment of the engine cold starting enrichment system may be performed if there is a problem of stalling or if there is visible black smoke.

(C) Readjustment of the engine idlespeed (curb idle and fast idle) may be performed, in addition to that performed as scheduled maintenance under paragraph (a)(1) of this section, if the idle speed exceeds the manufacturer's recommended idle speed by 300 r.p.m. or more, or if there is a problem of stalling.

(D) The idle mixture may be reset, other than during scheduled major engine tuneups, only with the advance approval of the Administrator.

(ii) *For Diesel vehicles,* unscheduled maintenance on the engine emission control system, and fuel system of durability-data vehicles may be performed except as provided in paragraph (a)(5)(i) of this section, only under the following provisions:

(A) Injectors may be changed if a persistent misfire is detected.

(B) Readjustment of the engine idle speed (curb idle and fast idle) may be performed in addition to that performed as scheduled maintenance under paragraph (a)(1) of this section, if the idle speed exceeds the manufacturer's recommended idle speed by 300 r.p.m. or more, or if there is a problem of stalling.

(3) An exhaust gas recirculation (EGR) system may be serviced during durability testing only under one of the following provisions:

(i) Manufacturers may schedule service to the EGR system at the scheduled major engine tuneups if an audible and/or visual signal approved by the Administrator alerts the vehicle operator to the need for EGR system maintenance at each of those mileage points. One additional servicing may also be performed as unscheduled maintenance if there is an overt indication of malfunction and if the malfunction or repair of the malfunction does not render the test vehicle unrepresentative of vehicles in use.

(ii) Manufacturers may service the EGR system as unscheduled maintenance a maximum of three times during the 50,000 miles if failure of the EGR system activates an audible and/or visual signal approved by the Administrator which alerts the vehicle operator to the need for EGR system maintenance. One additional servicing may also be performed as unscheduled maintenance if there is an overt indication of malfunction and if the malfunction or repair of the malfunction does not render the test vehicle unrepresentative of vehicles in use.

(iii) Manufacturers may service the EGR system a maximum of three times during the 50,000 miles either at a scheduled major engine tuneup point or as unscheduled maintenance, if an audible and/or visual signal approved by the Administrator alerts the vehicle operator to the need for EGR system maintenance. The signal may be activated either by EGR system failure (unscheduled maintenance) or need for scheduled periodic maintenance. If maintenance is performed, the signal for scheduled periodic maintenance shall be reset. One additional servicing may also be performed as unscheduled maintenance if there is an overt indication of malfunction and if the malfunction or repair of the malfunction does not render the test vehicle unrepresentative of vehicles in use.

(iv) Manufacturers may schedule service to the EGR system at the scheduled major engine tuneup(s) if failure to perform EGR system maintenance is not likely, as determined by the Administrator, to result in an improvement in vehicle performance. One additional servicing may also be performed as unscheduled maintenance if there is an overt indication of malfunction and if the malfunction or repair of the malfunction does not render the test vehicle unrepresentative of vehicles in use.

(4) The catalytic converter may be serviced once during 50,000 miles if an audible and/or visual signal approved by the Administrator alerts the vehicle operator to the need for maintenance. The signal may be activated either by component failure or need for maintenance at a scheduled point.

(5) Any other engine, emission control system, or fuel system adjustment, repair, removal, disassembly, cleaning, or replacement on durability-data vehicles shall be performed only with the advance approval of the Administrator.

(i) In the case of unscheduled maintenance, such approval will be given if the Administrator:

(A) Has made a preliminary determination that part failure or system malfunction, or the repair of such failure or malfunction, does not render the vehicle unrepresentative of vehicles in use, and does not require direct access to the combustion chamber, except for spark plug, fuel injection component, or removable prechamber removal or replacement; and

(B) Has made a determination that the need for maintenance or repairs is indicated by an overt indication of malfunction such as persistent misfiring, vehicle stalling, overheating, fluid leakage, loss of oil pressure, or charge indicator warning. For the evaporative emission control system this overt indication may be indicated by such items as fuel odor or fluid leakage.

(ii) Emission measurements may not be used as a means of determining the need for unscheduled maintenance under paragraph (a)(5)(i)(A) of this section.

(iii) Requests for authorization of scheduled maintenance of emission control-related components not specifically authorized to be maintained by these regulations must be made prior to the beginning of durabilility testing. The Administrator will approve the performance of such maintenance if the manufacturer makes a satisfactory showing that the maintenance will be performed on vehicles in use.

(6) If the Administrator determines that part failure or system malfunction occurrence and/or repair rendered the vehicle unrepresentative of vehicles in use, the vehicle shall not be used as a durability-data vehicle.

(7) Where the Administrator agrees under § 86.079–26 to a mileage accumulation of less than 50,000 miles for durability testing, he may modify the requirements of this paragraph.

(8)(i) Adjustment of engine idle speed on emission-data vehicles may be performed once before the 6,436-kilometer (4,000-mile) test point. Any other engine, emission control system, or fuel system adjustment, repair, removal, disassembly, cleaning, or replacement on emission-data vehicles shall be performed only with the advance approval of the Administrator.

(ii) Maintenance on emission-data vehicles selected under § 86.079–24 (b)(1)(v) or (b)(1)(vii)(D) and permitted to be tested for purposes of § 86.079–23(b)(1)(ii) under the provisions of § 86.079–24(b)(1)(vi) may be performed in conjunction with emission control system modifications at the 6,436-kilometer (4,000-mile) test point, and shall be performed in accordance with the maintenance instructions to be provided to the ultimate purchaser required under § 86.079–38.

(iii) Maintenance on those emission-data vehicles selected under § 86.079–24(b)(1)(v) which are not capable of being modified in the field for the purpose of complying with emission standards at an altitude other than intended by the original design may be performed in conjunction with the emission control system modifications at the 6,436-kilometer (4,000-mile) test point, and shall be approved in advance by the Administrator.

(9) Repairs to vehicle components of the durability-data or emission-data vehicle, other than the engine, emission control system or fuel system, shall be performed only as a result of part failure, vehicle system malfunction, or with the advance approval of the Administrator.

(10) Complete emission tests (see §§ 86.106 through 86.145) are required, unless waived by the Administrator, before and after any vehicle maintenance which may reasonably be expected to affect emissions. These test data shall be air posted to the

Administrator within 24 hours (or delivered within 3 working days), after the tests, along with a complete record of all pertinent maintenance, including a preliminary engineering report of any malfunction diagnosis and the corrective action taken. A complete engineering report shall be delivered or air posted to the Adminsitrator within 10 working days after the tests. In addition, all test data and maintenance reports shall be compiled and provided to the Administrator in accordance with § 86.079–23.

(11) The Administrator shall be given the opportuntiy to verify the existence of an overt indication of part failure and/or vehicle malfunction (e.g., misfiring, stalling, black smoke), or an activation of an audible and/or visual signal, prior to the performance of any maintenance to which such overt indication or signal is relevant under the provisions of this section.

(12) Equipment, instruments, or tools may not be used to identify malfunctioning, maladjusted, or defective engine components unless the same or equivalent equipment, instruments, or tools will be available to dealerships and other service outlets and

(i) Are used in conjunction with scheduled maintenance on such components,

(ii) Are used subsequent to the identification of a vehicle or engine malfunction, as provided in paragraph (a)(5)(i) of this section for durability-data vehicles or paragraph (a)(8)(i) of this section for emission-data vehicles, or

(iii) Unless specifically authorized by the Administrator.

(b) *Light-duty trucks.* Paragraph (b) of this section applies to light-duty trucks.

(1) All emission-related scheduled maintenance which is performed on durability-data vehicles must be technologically necessary and must have a reasonable likelihood of being performed in-use.

(i) The manufacturer must submit data to the Administrator which demonstrates that all of the emission-related maintenance which is to be performed on the durability-data vehicles is technogically necessary. EPA Has determined that emissions-related maintenance in addition to or at shorter intervals than that outlined in paragraphs (b)(1)(ii) and (b)(1)(iii) is not technologically necessary. The Administrator may determine that even maintenance more restrictive (e.g., longer intervals) than that listed in paragraphs (b)(1)(ii) and (b)(1)(iii) is not technologically necessary.

(ii) For gasoline-fueled vehicles, emission-related maintenance in addition to or at shorter intervals than that listed below will not be accepted as technologically necessary, except as provided in paragraph (b)(1)(iv).

(A) The cleaning or replacement of spark plugs at 30,000 miles and at 30,000 mile intervals thereafter.

(B) The inspecting, cleaning, adjustment, or replacement of the following at 50,000 miles of use and at 50,000-mile intervals thereafter:

(*1*) Positive crankcase ventilation valves;

(*2*) Emission-related hoses and tubes;

(*3*) Ignition wires;

(*4*) Oxygen sensor;

(*5*) Idle mixture.

(C) The replacement of the catalytic converter or inspecting and cleaning of the injector tips at 100,000 miles of use and at 100,000-mile (or longer) intervals thereafter.

(iii) For diesel vehicles, emission-related maintenance in addition to or at shorter intervals than that lised below will not be accepted as technologically necessary, except as provided in paragraph (b)(1)(iv).

(A) The cleaning or replacement of the exhaust gas recirculation and positive crankcase control valves at 50,000 miles of use and at 50,000-mile intervals thereafter.

(B) The cleaning of injector tips at 100,000 miles of use and at 100,000-mile intervals thereafter.

(C) The cleaning, rebuilding, or replacement of the following at 200,000 miles of use and at 200,000 mile intervals thereafter:

(*1*) Turbocharger;

(*2*) Injectors.

(iv) Requests for authorization of scheduled maintenance of emission control related components in addition to those items of maintenance covered under paragraphs (b)(1)(ii) and (b)(1)(iii) will be considered if the maintenance is a direct result of the implementation of new technology. New technology means any technology not found in production on any motor vehicle prior to the 1980 model year.

(v) Emission-related scheduled maintenance items which satisfy one of the following will be accepted as having a reasonable likelihood of being performed in-use.

(A) Data is presented to the Administrator which adequately demonstrates that vehicle performance will quickly deteriorate to a point unacceptable for typical driving if the maintenance item is not performed at the recommended interval.

(B) The manufacturer provides this maintenance free of charge.

(C) Survey data is submitted to the Administrator which adequately demonstrates that 90 percent of such vehicles (at an 80% confidence level) already have this maintenance item performed in-use at the recommended interval and throughout the useful life of the vehicle for which certification is being sought.

(D) For maintenance for which there is no in-use experience on light-duty trucks, a clearly displayed visual signal alerts the vehicle driver that maintenance is due. This option is available only for a period sufficient to allow the manufacturer to collect the appropriate survey data to demonstrate that the signal is at least contributing to the adequate demonstration (paragraph (C) above) that the specific maintenance is actually being performed in-use. This survey data must be submitted at least once every 2 years. The signal must be continuous while the vehicle is in operation, but may be overridden by the driver after each engine start-up. The signal, with the possible addition of a label, must also direct the driver to that place in the owner's manual where this maintenance item is recommended and also show the driver which maintenance item is due. The signal may be eliminated by the performance of the required maintenance.

(vi) Non-emission related vehicle maintenance which is reasonable and necessary (e.g., oil change, oil filter change, fuel filter change, air filter change, cooling system maintenance, accessory belt inspection, adjustment of idle speed, governor, engine bolt torque, valve lash, injector lash, timing, etc.) may be performed on durability-data vehicles at the intervals recommended by the manufacturer to the-ultimate purchaser.

(vii) Unscheduled maintenance may be performed on durability-data vehicles, except as provided in paragraph (b)(1)(viii)(A) of this section, only under the following provisions:

(A) An injector or spark plug may be changed if a persistent misfire is detected.

(B) Readjustment of a gasoline-fueled vehicle cold-start enrichment system may be performed if there is a problem of stalling.

(C) Readjustment of the engine idle speed (curb idle and fast idle) may be performed, if the idle speed exceeds the manufacturer's recommended idle speed by 300 rpm or more, or if there is a problem of stalling.

(viii) Any other unscheduled vehicle, engine, emission control system, or fuel

system adjustment, repair, removal, disassembly, cleaning, or replacement on durability-data vehicles shall be performed only with the advance approval of the Administrator.

(A) Such approval will be given if the Administrator:

(*1*) Has made a preliminary determination that the part failure or system malfunction, or the repair of such failure or malfunction, does not render the vehicle unrepresentative of vehicles in use, and does not require direct access to the combustion chamber, except for spark plug, fuel injection component, or removable prechamber removal or replacement; and,

(*2*) Has made a determination that the need for maintenance or repairs is indicated by an overt indication of malfunction such as persistent misfiring, engine stalling, overheating, fluid leakage, loss of oil pressure, excessive fuel consumption or excessive power loss.

(B) Emission measurements may not be used as a means of determining the need for unscheduled maintenance under paragraph (b)(1)(vii) of this section.

(ix) If the Administrator determines the part failure or system malfunction occurrence and/or repair rendered the vehicle unrepresentative of vehicles in use, the vehicle shall not continue to be used as a durability-data vehicle. The emission data from a vehicle that is discontinued as a durability-data vehicle shall not be included in the evaluation of the deterioration factor for the family-system combination if the vehicle's calculated deterioration factor is less than the average deterioration factor for the remaining durability-data vehicles in the combination, unless the manufacturer's engineering analysis demonstrates, to the satisfaction of the Administrator, that the data is representative.

(2) [Reserved]

(3)(i) Scheduled maintenance on emission-data vehicles is limited to the adjustment of idle speed once before the 4,000-mile test point, provided the idle speed is outside the manufacturer's specifications.

(ii) Maintenance on emission-data vehicles selected under § 86.083–24(b)(1)(v) or (b)(1)(vii)(D) and permitted to be tested for purposes of § 86.083–23(c)(1)(ii) under the provisions of § 86.077–24(b)(1)(vi) may be performed in conjunction with emission control system modifications at the 6,436 kilometers (4,000-mile) test point, and shall be performed in accordance with the maintenance instructions to be provided to the ultimate purchaser required under § 86.083–38.

(iii) Maintenance on those emission-data vehicles selected under § 86.083–24(b)(1)(v) which are not capable of being modified in the field for the purpose of complying with emission standards at an altitude other than that intended by the original design may be performed in conjunction with the emission control system modifications at the 6,436 kilometer (4,000-mile) test point, and shall be approved in advance by the Administrator.

(iv) Any other engine, emission control system, or fuel system, adjustment, repair, removal, disassembly, cleaning, servicing, or replacement shall be performed only with the advance approval of the Administrator.

(4) Repairs to vehicle components of the durability-data or emission-data vehicle other than the engine, emission control system, or fuel system, shall be performed only as a result of part failure, vehicle system malfunction, or with the advance approval of the Administrator.

(5)(i) Complete emission test (see Subparts B and P of this part) are required, unless waived by the Administrator, before and after catalytic converter or oxygen sensor servicing on any vehicle.

(ii) The Administrator may require emission tests before and after any unscheduled maintenance.

(iii) [Reserved]

(iv) Test data required by paragraph (b)(5) of this section shall be air posted to the Administrator within 72 hours of test completion (or delivered within 5 working days), along with a complete record of all pertinent maintenance.

(v) When unscheduled maintenance is approved, a preliminary engineering report, unless waived by the Administrator, shall be air posted within 72 hours (or delivered within 5 working days). A final engineering report shall be delivered or air posted within 10 working days after the completion of the emission tests. The Administrator may approve an extension of the time requirements for the final engineering report.

(vi) All test data, maintenance reports, and required engineering reports shall be compiled and provided to the Administrator in accordance with § 86.083–23.

(6) The Administrator shall be given the opportunity to verify the existence of an overt indication of part failure and/or vehicle malfunction (e.g., misfiring, stalling), or an activation of an audible and/or visual signal, prior to the performance of any maintenance to which such overt indication or signal is relevant under the provisions of this section.

(7) Equipment, instruments, or tools may not be used to identify malfunctioning, maladjusted, or defective engine components unless the same or equivalent equipment, instruments, or tools will be available to dealerships and other service outlets and:

(i) Are used in conjunction with scheduled maintenance on such components.

(ii) Are used subsequent to the identification of a vehicle or engine malfunction, as provided in paragraph (b)(1)(viii)(A) of this section for durability-data vehicles or paragraph (b)(3)(i) of this section for emission-data vehicles, or

(iii) Unless specifically authorized by the Administrator.

(c)(1) *Heavy-duty engines.* Paragraph (c) of this section applies to heavy-duty engines.

(2)(i) The scheduled maintenance described in this section may be performed on a durability-data engine provided the maintenance is requested in the application for certification. Such scheduled maintenance must be specified at the same intervals in the maintenance instructions furnished to the ultimate purchaser of the vehicle in which the engine, represented by the test engine, is installed. (For equivalent dynamometer hours, engine hours, and mileage intervals, see § 86.079–2.) A scheduled major engine servicing shall be restricted to items listed in this subparagraph and shall be conducted in a manner consistent with service instructions and specifications provided by the manufacturer for use by the customer service personnel.

(A) For gasoline-fueled engines, major engine tuneups to manufacturer's specifications may be performed no more frequently than every 375 hours of scheduled dynamometer operation: *Provided,* No tuneups are performed after 1,375 hours of scheduled dynamometer operation. The following items may be inspected, replaced, cleaned, adjusted, and/or serviced as required:

(*1*) Ignition system.

(*2*) Cold starting enrichment system (includes fast idle speed setting).

(*3*) Curbs idle speed and air/fuel mixture.

(*4*) Drive belt tension on engines accessories.

(*5*) Valve lash.

(*6*) Inlet air and exhaust gas control valves.

(7) Engine bolt torque.
(8) Sparks plugs.
(9) Fuel filter and air filter.
(10) Crankcase emission control system.
(11) Fuel evaporative emission control system.

(B) For diesel engines one major engine servicing to the manufacturer's specifications may be performed prior to 875 hours (±8 hours) of scheduled dynamometer operation. The following items may be inspected, replaced, cleaned, adjusted, and/or serviced as required:

(1) Low idle speed.
(2) Drive belt tension.
(3) Engines bolt torque.
(4) Valve lash.
(5) Injection timing.
(6) Injector assemblies.
(7) Governor settings.

(C) Normal engine servicing such as engine oil change, and oil filter, fuel filter, and air filter cleaning or replacement will be allowed at manufacturer's recommended intervals. If approved in advance by the Administrator, the maintenance for these items may differ from that specified in the manufacturer's maintenance instructions.

(D) Readjustement of the engine low idle speed may be performed once during the first 125 hours of engine operation.

(ii) Unscheduled maintenance may be performed on durability-data engines, except as provided in paragraph (c)(2)v)(A) of this section, only under the following provisions:

(A) An injector or spark plug may be changed if a persistent misfire is detected.

(B) Readjustment of a gasoline-fueled engine cold-start enrichment system may be performed it there is a problem of stalling or if there is visible black smoke.

(C) Readjustment of the engine idle speed (curbs idle and fast idle) may be performed, in addition to that performed as scheduled maintenance under paragraph (c)(2)(i) of this section, if the idle speed exceeds the manufacturer's recommended idle speed by 300 r.p.m. or more, or if there is a problem of stalling.

(D) The idle mixture may be reset, other than during scheduled major engine tuneups, only with the advance approval of the Administrator.

(iii) Any exhaust gas recirculation (EGR) system may be serviced during durability testing only under one of the following provisions:

(A) Manufacturers may schedule service to the EGR system at the scheduled major engine tuneup if an audible and/or visual signal approved by the Administrator alerts the engine operator to the need for EGR system maintenance at the service point. One additional servicing may also be performed as unscheduled maintenance if there is an overt indication of malfunction and if the malfunction or repair of the malfunction does not render the test engine unrepresentative of engines in use.

(B) Manufacturers may service the EGR system as unscheduled maintenance a maximum of one time during durability testing (1,500 hours for gasoline-fuel engines or 1,000 hours for diesel engines) if failure of the EGR system activates an audible and/or visual signal approved by the Administrator which alterts the engine operator to the need for EGR system maintenance. One additional servicing may also be performed as unscheduled maintenance if there is an overt indication of malfunction and if the malfunction or repair of the malfunction does not render the test engine unrepresentative of engines in use.

(C) Manufacturers may service the EGR system a maximum of three times during durability testing (1,500 hours for gasoline-fueled engines or 1,000 hours for diesel engines) either at a scheduled major engine tuneup point or as unscheduled maintenance, if an audible and/or visual signal approved by the Administrator alerts the engine operator to the need for EGR system maintenance. The signal may be activated either by EGR system failure (unscheduled maintenance) or need for scheduled periodic maintenance. If maintenance is performed, the signal for scheduled periodic maintenance shall be reset. One additional servicing may also be performed as unscheduled maintenance if there is an overt indication of malfunction and if the malfunction or repair of the malfunction does not render the test engine unrepresentative of engines in use.

(D) Manufacturers may scheduled service to the EGR system at the scheduled major engine tuneup(s) if failure to perform EGR system maintenance is not likely, as determined by the Administrator, to result in an improvement in engine performance. One additional servicing may also be performed as unscheduled maintenance if there is an overt indication of malfunction and if the malfunction or repair of the malfunction does not render the test engine unrepresentative of engines in use.

(iv) The catalytic converter may be serviced once during durability testing (1,500 hours for gasoline-fueled engines or 1,000 hours for diesel engines). If an audible and/or visual signal approved by the Administrator alerts the engine operator to the need for maintenance, the signal may be activated either by component failure or need for maintenance at a scheduled point.

(v) Any other engine, emission control system, or fuel system adjustment, repair, removal, disassembly, cleaning, or replacement on durability-data engines shall be performed only with the advance approval of the Administrator.

(A) In the case of unscheduled maintenance such approval will be given if the Administrator:

(1) Has made a preliminary determination that part failure or system malfunction, or the repair of such failure or malfunction, does not render the engine unrepresentative of engines in use, and does not require direct access to the combustion chamber, except for spark plug, fuel injection component, or removable prechamber removal or replacement; and,

(2) has made a determination that the need for maintenance or repairs is indicated by an overt indication of malfunction such as persistent misfiring, engine stalling, overheating, fluid leakage, loss of oil pressure, excessive fuel consumption or excessive power loss.

(B) Emission measurements may not be used as a means of determining the need for unscheduled maintenance under paragraph (c)(2)(v)(A)(1) of this section.

(C) Requests for authorization of scheduled maintenance of emission-control related components not specifically authorized to be maintained by these regulations must be made prior to the beginning of durability testing. The Administrator will approve the performance of such maintenance if the manufacturer makes a satisfactory showing that the maintenance will be performed on engines in use.

(vi) If the Administrator determines that part failure or system malfunction occurrence and/or repair rendered the engine unrepresentative of engines in use, the engine shall not be used as a durability-data engine.

(3)(i) Scheduled maintenance on emission-data engines is limited to the adjustment of idle speed once before the 125-hour test point, provided the idle speed is outside the manufacturer's specifications.

(ii) Any other engine, emission control system, or fuel system, adjustment, repair, removal, disassembly, cleaning, servicing, or replacement shall be performed only with the advance approval of the Administrator.

(4) [Reserved]

(5)(i) Complete emission tests (see Subparts D or H of this part for gasoline-fueled engines and Subparts D and I, or I and J of this part for Diesel engines) are required, unless waived by the Administrator, before and after:

(A) Scheduled maintenance approved for durability-data engines, except maintenance performed under § 86.079–25(c)(2)(i)(c);

(B) Unscheduled maintenance which may reasonably be expected to affect emissions.

(ii) The tests before and after scheduled maintenance, which are performed on durability-data engines prior to 117 hours, are waived. The test before scheduled maintenance, which is performed on durability-data engines after 117 hours and prior to 133 hours, is waived. The after-maintenance test must be run and the results used in the deterioration factor calculation in accordance with § 86.079–28.

(iii) The idle speed reset and any scheduled maintenance on the emission-data engine shall be performed prior to the 125-hour test. The before-maintenance and after-maintenance tests associated with idle speed reset and scheduled maintenance on the emission-data engine are waived.

(iv) Test data required by this paragraph shall be air posted to the Administrator within 72 hours of test completion (or delivered within 5 working days), along with a complete record of all pertinent maintenance.

(v) When unscheduled maintenance is approved, a preliminary engineering report, unless waived by the Administrator, shall be air posted within 72 hours (or delivered within 5 working days). A final engineering report shall be delivered or air posted within 10 working days after the completion of the emission tests. The Administrator may approve an extension of the time requirements for the final engineering report.

(vi) All test data, maintenance reports, and required engineering reports shall be compiled and provided to the Administrator in accordance with § 86.079–23.

(6) The Administrator shall be given the opportunity to verify the existence of an overt indication of part failure and/or engine malfunction (e.g., misfiring, stalling).

(7) Equipment, instruments, or tools may not be used to identify malfunctioning, maladjusted, or defective engine components unless the same or equivalent equipment, instruments, or tools will be available to dealerships and other service outlets, and:

(i) Are used in conjunction with scheduled maintenance on such components;

(ii) Are used subsequent to the identification of an engine failure or malfunction, as provided in paragraph (c)(2)(v)(A) of this section for durability-data engines or paragraph (c)(3) of this section for emission-data engines; or,

(iii) Unless specifically authorized by the Administrator.

9. A new § 86.083–26 is proposed to read:

§ 86.083–26 Mileage and service accumulation; emission measurements.

(a)(1) Paragraph (a) of this section applies to light-duty vehicles.

(2) The procedure for mileage accumulation will be the durability driving schedule as specified in appendix IV to this part. A modified procedure may also be used if approved in advance by the Administrator. Except with the advance approval of the Administrator, all vehicles will accumulate mileage at a measured curb weight which is within 100 pounds of the estimated curb weight. If the loaded vehicle weight is within 100 pounds of being included in the next higher inertia weight class as specified in § 86.129, the manufacturer may elect to conduct the respective emission tests at the test weight corresponding to the higher loaded vehicle weight.

(3) *Emission-data vehicles.* Unless as otherwise provided for in § 86.079–23(a), emission-data vehicles shall be operated and tested as follows:

(i) *Gasoline-fueled.* (A) Each gasoline-fueled emission-data vehicle shall be driven 4,000 miles with all emission control systems installed and operating. Complete exhaust emission tests shall be conducted at zero and 4,000 miles on those vehicles selected under § 86.080–24 (b)(1)(ii) through (b)(1)(v). Complete exhaust and evaporative emission tests shall be conducted at zero miles and 4,000 miles on those vehicles selected under § 86.080–24(b)(1)(vii). The manufacturer may at his option test the vehicles selected under § 86.080–24(b)(1)(vii) up to three times at the 4,000-mile test point as long as the ±250-mile test tolerance is adhered to. The administrator may determine under § 86.080–24(f) that no testing is required.

(B) The emission-data vehicle(s) selected for testing under § 86.080–24 (b)(1)(v) or (b)(1)(vii)(D) shall be driven 6,436 kilometers (4,000 miles) at any altitude. Emission tests shall be conducted at zero kilometers (zero miles) at any altitude and 6,436 kilometers (4,000 miles) under high-altitude conditions.

(C) The emission-data vehicle(s) selected for testing under § 86.080–24 (b)(1)(v) or (b)(1)(vii)(D) and permitted to be tested for purposes of § 86.079–23(c)(1)(ii) under the provisions of § 86.080–24(b)(1)(vi) shall be driven 6,436 kilometers (4,000 miles) at low altitude. Emission tests shall be conducted at zero kilometers (zero miles) at low altitude and 6,436 kilometers (4,000 miles) under both low- and high-altitude conditions. For the purposes of this subparagraph, "low altitude" means any elevation less than 549 meters (1,800 feet).

(ii) *Diesel.* (A) Each diesel emission data vehicle shall be driven 6,436 kilometers (4,000 miles) with all emission control systems installed and operating. Emission tests shall be conducted at zero kilometers (zero miles) and 6,436 kilometers (4,000 miles).

(B) The emission-data vehicle(s) selected for testing under § 86.080–24(b)(1)(v) shall be driven 6,436 kilometers (4,000 miles) at any altitude. Emission tests shall be conducted at zero kilometers (zero miles) at any altitude and 6,436 kilometers (4,000 miles) under high-altitude conditions.

(C) The emission-data vehicle(s) selected for testing under § 86.080–24(b)(1)(v) and permitted to be tested for purposes of § 86.079–23(c)(1)(ii) under the provisions of § 86.080–24(b)(1)(vi) shall be driven 6,436 kilometers (4,000 miles) at low altitude. emission tests shall be conducted at zero kilometers (zero miles) at low altitude and 6,436 kilometers (4,000 miles) under both low- and high-altitude conditions. For the purpose of this subparagraph "low altitude" means any elevation less than 549 meters (1,800 feet).

(4) *Durability-data vehicles.* Unless as othewise provided for in § 86.079–23(a), durability-data vehicles shall be operated and tested as follows:

(i) *Gasoline-fueled.* Each gasoline-fueled durability-data vehicle selected by the Administrator or elected by the manufacturer under § 86.080–24(c)(1) shall be driven, with all emission control systems installed and operating, for 50,000 miles or such lesser distance as the Administrator may agree to as meeting the objective of this procedure. Complete exhaust emission tests shall be made on all durability-data vehicles selected by the Administrator or elected by the manufacturer under § 86.080–24(c) at the following mileage points: 0; 5,000; 10,000; 15,000; 20,000; 25,000; 30,000; 35,000; 40,000; 45,000; 50,000. The Administrator may determine under § 86.080–24(f) that no testing is required.

(ii) *Diesel.* Each diesel durability-data vehicle shall be driven, with all emission control systems installed and operating, for 50,000 miles or such lesser distance at the Administrator may agree to as meeting the objectives of the procedure. Complete emission tests (see §§ 86.106 through 86.145) shall be made at the following mileage points: 0; 5,000; 10,000; 15,000; 20,000; 25,000; 30,000; 35,000; 40,000; 45,000; 50,000.

(5) All tests required by this subpart to be conducted after every 5,000 miles of driving for durability-data vehicles and 4,000 miles for emission-data vehicles must be conducted at any accumulated mileage within 250 miles of each of those test points.

(6)(i) The results of each emission test shall be supplied to the Administrator immediately after the test. The manufacturer shall furnish to the Administrator explanation for voiding any test. The Administrator will determine if voiding the test was appropriate based upon the explanation given by the manufacturer for the voided test. If a manufacturer conducts multiple tests at any test point at which the data are intended to be used in the calculation of the deterioration factor, the number of tests must be the same at each point and may not exceed three valid tests. Tests between test points may be conducted as required by the Administrator. Data from all tests (including voided tests) shall be air posted to the Administrator within 24 hours (or delivered within 3 working days). In addition, all test data shall be compiled and provided to the Administrator in accordance with § 86.079–23. Where the Administrator conducts a test on a durability-data vehicle at a prescribed test point, the results of that test will be used in the calculation of the deterioration factor.

(ii) The results of all emission tests shall be rounded, using the "rounding off method" specified in ASTM E29–67, to the number of places to the right of the decimal point indicated by expressing the applicable emission standards of this subpart to three significant figures.

(7) Whenever the manufacturer proposes to operate and test a vehicle which may be used for emission or durability data, he shall provide the zero-mile test data to the Administrator (except for those vehicles for which the zero-mile test requirement has been waived under § 86.079–23(a)(2)) and make the vehicle available for such testing under § 86.079–29 as the Administrator may require before beginning to accumulate mileage on the vehicle. Failure to comply with this requirement will invalidate all test data submitted for this vehicle.

(8) Once a manufacturer begins to operate an emission-data or durability-data vehicle, as indicated by compliance with paragraph (a)(7) of this section, he shall continue to run the vehicle to 4,000 miles or 50,000 miles, respectively, and the data from the vehicle will be used in the calculations under § 86.079–28. Discontinuation of a vehicle shall be allowed only with the written consent of the Administrator.

(9)(i) The Administrator may elect to operate and test any test vehicle during all or any part of the mileage accumulation and testing procedure. In such cases, the manufacturer shall provide the vehicle(s) to the Administrator with all information necessary to conduct this testing.

(ii) The test procedures in §§ 86.106 through 86.145 will be followed by the Administrator. The Administrator will test the vehicles at each test point. Maintenance may be performed by the manufacturer under such conditions as the Administrator may prescribe.

(iii) The data developed by the Administrator for the engine-system combination shall be combined with any applicable data supplied by the manufacturer on other vehicles of that combination to determine the applicable deterioration factors for the combination. In the case of a significant discrepancy between data developed by the Administrator and that submitted by the manufacturer, the Administrator's data shall be used in the determination of deterioration factors.

(10) Emission testing of any type with respect to any certification vehicle other than that specified in this part is not allowed except as such testing may be specifically authorized by the Administrator.

(11) This section does not apply to testing conducted to meet the requirements of § 86.079–23(b)(2).

(b)(1) Paragraph (b) of this section applies to heavy-duty engines.

(2)(i) For gasoline-fueled engines, the dynamometer service accumulation schedule will consist of several operating conditions which give the percent loads and the modes as specified in the following chart. The percentage of time in each mode must be held within the limits specified. The maximum observed torque for each mode in the service accumulation cycle must be determined at the rpm at which the mode is being conducted. The percent load for that mode will be determined from the maximum torque at the rpm at which the mode is being conducted.

Mode	Observed torque (percentage of maximum observed)	Percentage of time
Idle	Idle	23 (22 to 24).
CT	CT	14 (13 to 15).
PTD	10	6 (5 to 7).
Cruise	25	31 (30 to 32).
PTA	55	15 (14 to 16).
FL	90	11 (10 to 12).

(ii) The equivalent control parameter for engine loading will be manifold vacuum, manifold pressure, or torque. Usage of one of the three parameters will require approval in advance by the Administrator. The control parameter values that correspond to the appropriate percent loads as specified in the emission test cycle will be initially determined at the zero-hour point or after an appropriate break-in procedure. The control parameter values determined initially will be used for the entire service accumulation schedule. If at any time during the service accumulation, the 90 percent torque value cannot be attained, the engine shall be operated at wide-open throttle.

(iii) The average speed shall be between 1,650 and 1,700 rpm. Subject to the requirements as to average speed, there must be operation at speeds in excess of 3,200 rpm (but not in excess of governed speed for governed engines or rated speed for nongoverned engines) for a cumulative maximum of 0.5 percent of the actual cycle time, excluding time in transient conditions. Maximum cycle time shall be 15 minutes. A cycle approved in advance by the Administrator shall be used.

(3)(i) For diesel engines, the following criteria must be met before service accumulation can begin. Failure to comply with these requirements shall invalidate all test data submitted for an engine.

(A) Each engine shall produce at least 95 percent of the maximum horsepower, corrected to rating conditions, at 95 to 100 percent of the rated speed.

(B) The fuel rate at maximum horsepower shall be within manufacturer's specifications.

(ii) During service accumulation, hours can be credited toward the required service accumulation hours when the following criteria are met. If these criteria cannot be met, engine operation shall be discontinued and the Administrator shall be notified immediately. (Adjustments to the fuel rate can be approved under the provisions of § 86.079–25.)

(A) Each engine shall produce at least 95 percent of the maximum horsepower, at 95 to 100 percent of the rated speed, observed at the zero-hour point. Horsepower values shall be corrected to the rating conditions.

(B) The engine shall be operated at 75 percent of the inlet and exhaust restrictions specified in § 86.879–3 except that the tolerance will be ±3 inches of water and ±0.5 inch of Hg respectively.

(C) During each emission test the inlet and exhaust restrictions shall be as specified in § 86.879–8.

(4) If a break-in procedure is used, the procedure must be the same as recommended to the ultimate purchaser. Prior approval by the Administrator is required for use of any break-in procedure. The hours accumulated during the break-in procedure will not be counted as part of the service accumulation.

(5) Emission-data engines: Each emission-data engine shall be operated for 125 hours with all emission control systems installed and operating. An emission test shall be conducted at 125 hours. A zero-hour emission may be performed after the engine has been approved by the Administrator to begin service accumulation. Evaporative emission controls need not be connected provided normal operating conditions are maintained in the engine induction system.

(6) Durability-data engines: each gasoline-fueled durability-data engine shall be operated, with all emission control systems installed and operating, for 1,500 hours. Each diesel durability-data engine shall be operated for 1,000 hours. Emission measurement, as prescribed, shall be made at 125-hour intervals beginning at 125 hours of operation. A zero-hour emission test may be performed after the engine has been approved by the Administrator to begin service accumulation. Evaporative emission controls need not be connected provided normal operating conditions are maintained in the engine induction system.

(7) All tests required by this subpart to be conducted after 125 hours of operation or at any multiple of 125 hours may be conducted at any accumulated number of hours within 8 hours of 125 hours or the appropriate multiple of 125 hours respectively.

(8) (i) Data from all emission tests (including voided tests) shall be air posted to the Administrator within 72 hours (or delivered within 5 working days). The manufacturer shall furnish to the Administrator an explanation for voiding any test. The Administrator will determine if voiding the test was appropriate based upon the explanation given by the manufacturer for the voided test. If a manufacturer conducts multiple tests at any test point at which the data are intended to be used in the calculation of the deterioration factor, the number of tests must be the same at each point and may not exceed 3 valid tests. Tests between test points may be conducted as required by the Administrator. In addition, all test data shall be compiled and provided to the Administrator in accordance with § 86.079–23. Where the Administrator conducts a test on a durability-data engine at a prescribed test point, the results of that test will be used in the calculation of the deterioration factor.

(ii) The results of all emission tests shall be recorded and reported to the Administrator using two places to the right of the decimal point. These numbers shall be rounded in accordance with the "Rounding Off Method" specified in ASTM E 29–67.

(9) Whenever the manufacturer proposes to operate and test an engine which may be used for emission or durability data, he shall provide such information concerning components used on the engine as the Administrator may require and make the engine available for such testing under § 86.079–29 as the Administrator may require, before beginning to accumulate hours on the engine. Failure to comply with this requirement will invalidate all test data later submitted for this engine.

(10) Once a manufacturer begins to operate an emission-data or durability-data engine, as indicated by compliance with paragraph (b)(9) of this section, he shall continue to run any emission-data engine to 125 hours, any gasoline-fueled durability-data engine to 1,500 hours, and any diesel durability-data engine to 1,000 hours. The data from the engine will be used in the calculations under § 86.345. Discontinuation of an engine shall be allowed only with the prior written consent of the Administrator.

(11) (i) The Administrator may elect to operate and test any test engine during all or any part of the service accumulation and testing procedure. In such cases the manufacturer shall provide the engine(s) to the Administrator with all information necessary to conduct the testing.

(ii) The test procedures (Subpart D of this part for gasoline-fueled engines, and Subparts D and I of this part for diesel engines) will be followed by the Administrator. The Administrator will test the engines at each test point. Maintenance may be performed by the manufacturer under such conditions as the Administrator may prescribe.

(iii) The data developed by the Administrator for the engine-system combination shall be combined with any applicable data supplied by the manufacturer on other engines of that combination to determine the applicable deterioration factors for the combination. In the case of a significant discrepancy between data developed by the Administrator and that submitted by the manufacturer, the Administrator's data shall be used in the determination of deterioration factors.

(12) Emission testing of any type with respect to any certification engine other than that specified in this subpart is not allowed except as such testing may be specifically authorized by the Administrator.

(c) (1) Paragraph (c) of this section applies to light-duty trucks.

(2) There are four types of mileage or service accumulation applicable to light-duty trucks:

(i) Mileage or service accumulation on vehicles, engines, subsystems, or components selected by the manufacturer under § 86.083–24(c)(4)(i). The manufacturer determines the form and extent of this mileage or service accumulation, consistent with good engineering practice, and describes it in the application for certification.

(ii) Mileage accumulation of 4,000 miles duration on emission-data vehicles selected under § 86.083–24(b)(1) and on durability-data vehicles selected under § 86.083–24(c)(4)(ii). The procedure for mileage accumulation will be the Durability Driving Schedule as specified in Appendix IV to this part. A modified procedure may also be used if approved in advance by the Administrator. Except with the advance approval of the Administrator, all vehicles will accumulate mileage at a measured curb weight which is within 100 pounds of the estimated curb weight. If the loaded vehicle weight is within 100 pounds of being included in the next higher inertia weight class as specified in § 86.129, the manufacturer may elect to conduct the respective emission tests at the test weight corresponding to the higher loaded vehicle weight.

(iii) In-use mileage accumulation on durability-data vehicles selected under § 86.083–24(c)(4)(ii). The manufacturer determines the vehicle service applications to be used in this mileage accumulation, subject to the requirements of paragraph (c) of this section and consistent with good engineering practice.

(iv) Service or mileage accumulation which may be part of the test

procedures used by the manufacturer to establish evaporative emission deterioration factors.

(3) Preliminary exhaust emission deterioration factors will be determined on the basis of the mileage or service accumulation described in paragraph (c)(2)(i) of this section and related testing, according to the manufacturer's procedures. These preliminary factors shall be used for the first model year for which a certificate of conformity with applicable standards of § 86.083–9 is sought for the engine family-control system combination. They may be used for the second model year also if 20,000 miles of in-use mileage has not been accumulated three months prior to the second model year.

(4) Each emission-data vehicle and each durability-data vehicle selected for in-use mileage accumulation shall be operated and tested as follows:

(i) *Gasoline-fueled.* (A) Each gasoline-fueled vehicle shall be driven 4,000 miles with all emission control systems installed and operating. Complete exhaust emission tests shall be conducted at zero and 4,000 miles on emission-data vehicles selected under § 86.083–24 (b)(1)(ii) through (b)(1)(v) and on the durability-data vehicles. The manufacturer may conduct up to three emission tests on durability-data vehicles, provided it stated it would do so in the application and provided all durability-data vehicles in an engine family-control system conbination receive the same number of tests. Complete exhaust and evaporative emission tests shall be conducted at zero miles and 4,000 miles on those vehicles selected under § 86.083–24(b)(1)(vii). The manufacturer may at its option test the vehicles selected under § 86.083–24(b)(1)(vii) up to three times at the 4,000-mile test point as long as the ± 250-mile test tolerance is adhered to. The Administrator may determine under § 86.083–24(f) that no testing is required.

(B) The emission-data vehicle(s) selected for testing under § 86.083–24 (b)(1)(v) or (b)(1)(vii)(D) shall be driven 6,436 kilometers (4,000 miles) at any altitude. Emission tests shall be conducted at zero kilometers (zero miles) at any altitude and 6,436 kilometers (4,000 miles) under high-altitude conditions.

(C) The emission-data vehicles(s) selected for testing under § 86.083–24 (b)(1)(v) or (b)(1)(vii)(D) and permitted to be tested for purposes of § 86.083–23(b)(1)(ii) under the provisions § 86.083–24(b)(1)(vi) shall be driven 6,436 kilometers (4,000 miles) at low altitude. Emission tests shall be conducted at zero kilometers (4,000 miles) under both low- and high-altitude conditions. For the purposes of this subparagraph, low altitude means any elevation less than 549 meters (1,800 feet).

(ii) *Diesel.* (A) Each Diesel vehicle shall be driven 6,436 kilometers (4,000 miles) with all emission control systems installed and operating. Emission tests shall be conducted at zero kilometers (zero miles) and 6,436 kilometers (4,000 miles). The manufacturer may conduct up to three emission tests on durability-data vehicles, provided it stated it would do so in the application and provided all durability data vehicles in an engine family-control system combination receive the same number of tests.

(B) The emission-data vehicle(s) selected for testing under § 86.083–24(b)(1)(v) shall be driven 6,436 kilometers (4,000 miles) at any altitude. Emission tests shall be conducted at zero kilometers (zero miles) at any altitude and 6,436 kilometers (4,000 miles) under high-altitude conditions.

(C) The emission-data vehicle(s) selected for testing under § 86.083–24(b)(1)(v) and permitted to be tested for purposes of § 86.083–23(b)(1)(ii) under the provisions of § 86.083–24(b)(1)(vi) shall be driven 6,436 kilometers (4,000 miles) at low altitude. Emission tests shall be conducted at zero kilometers (zero miles) at low altitude and 6,436 kilometers (4,000 miles) under both low- and high-altitude conditions. For the purposes of this subparagraph, low altitude means any elevation less than 549 meters (1,800 feet).

(iii) If the emission test conducted on a durability-data vehicle at the 4,000-mile point, in combination with the appropriate preliminary deterioration factors, indicates that the vehicle is projected to fail the emission standards at its useful life, the vehicle shall not be used as a durability-data vehicle. The manufacturer shall randomly select another production vehicle of the same configuration to replace the failed vehicle. The certificate of conformity is suspended with respect to the failed vehicle.

(iv) All tests required to be conducted at 4,000 miles by paragraph (c)(4) of this section may be conducted at any accumulated mileage within 250 miles of that test point.

(5)(i) Within one month of the selection of each specific production vehicle to be used as a durability-data vehicle, the manufacturer shall have completed the mileage accumulation and emission testing of the durability-data vehicle required by paragrpah (c)(4)(i)(A) or (c)(4)(ii)(A) of this section and shall have put the vehicle into service for in-use mileage accumulation.

(ii) A durability-data vehicle shall not be modified in any manner which affects its curb weight, frontal area, or fuel system unless such modifications are required by the service application. No operating or service instructions shall be placed in or on the vehicle, except for instructions which also appear in the owners manual. If the durability-data vehicle is part of a commercial fleet, instructions specific to fleet operation, accounting, or emergency service may be placed in the vehicle. Other instructions and records may be stored in the vehicle only if placed in a locked commpartment or container to which the driver does not normally have access.

(iii) The service application of each durability-data vehicles shall be typical of predominantly urban, personal transportation applications and shall provide conditions which the manufacturer determines are typical of consumer operation. The manufacturer shall document before beginning in-use mileage accumulation that the selected service application of each durability-data vehicle will normally provide the following:

(A) A daily engine-off period of at least eight hours.

(B) An annual mileage accumulation of at least 10,000 miles or 10 percent of the useful life mileage, whichever is greater, and at most 40,000 miles or 40 percent of the useful life mileage, whichever is greater.

(C) A weekly mileage accumulation of at most 2,000 miles.

(iv) At least 10,000 miles or 10 percent of the useful life mileage, whichever is greater, and at most 40,000 miles or 40 percent of the useful life mileage, whichever is greater shall be accumulated on each durability-data vehicle representing the engine family-control system combination in each year. Mileage accumulated on a test track or on a public or private road when the only purpose is to accumulate mileage may not be credited toward the required amount of in-use mileage accumulation.

(v) At least 24,000 miles (including miles accumulated under paragraph (c)(4) of this section) shall be accumulated on at least one of the durability-data vehicles representing the engine family-control system combination in time to allow in-use deterioration factors to be calculated and used for the third model year for which the manufacturer applies for a certificate of conformity for the

combination. This test data must be supplied not later than three months prior to the third model year.

(vi) Each durability-data vehicle shall be tested as follows. At least one complete exhaust emission test (see Subparts B and P) shall be conducted at each point specified. The manufacturer may conduct up to three tests at each point, provided it stated it would do so in the application and provided all durability-data vehicles in an engine family-control system combination receive the same number of tests at all test points.

(A) Each durability-data vehicle shall be tested between the 24,000 and 27,000-mile points. After this test has been completed for at least one durability-data vehicle in an engine family-control system combination, the preliminary deterioration factors determined under paragraph (c)(3) of this section shall not be used in determining compliance by the combination with emission standards, for any model year for which a certificate of conformity has not yet been granted. Instead, in-use deterioration factors will be calculated based on all emission test results from all vehicles in the combination which have accumulated at least 24,000 miles of service, except those emission test results excluded from the calculation under § 86.083–25(b)(1)(ix) or under paragraph (c)(5)(vii) of this section.

(B) Each vehicle shall be tested before and after those maintenance operations requiring such testing under § 86.083–25(b)(5).

(C) The interval between successive tests after the test between 24,000 and 27,000 miles shall not exceed twelve months. The interval between successive tests may be less than 4 months only if such testing is required by this subpart or the Administrator.

(D) After 24,000 miles, the manufacturer shall perform tests on a schedule which provides at least one additional test point for each vehicle for use in determining updated in-use deterioration factors for each successive model year. This additional test data shall be provided not later than three months prior to the new model year. Any test data supplied after that time will apply to the following model year's deterioration factors.

(E) The manufacturer may perform one test prior to 24,000 miles, in addition to any which this subpart or the Administrator requires the manufacturer to conduct before and after maintenance.

(F) Each vehicle shall be tested upon completion of its in-use mileage accumulation, if still functioning.

(vii) In-use mileage accumulation for each vehicle shall continue until the vehicle has reached the end of its useful life as previously determined by the manufacturer. For any vehicle which stops functioning before reaching the end of its useful life, the manufacturer must submit to the Administrator an engineering analysis of why the vehicle stopped functioning. Any emission data from a vehicle which stops functioning before reaching the end of its useful life shall not be included in the calculation of the deterioration factor for the family-system combination if the vehicle's calculated deterioration factor is less than the average deterioration factor for the remaining durability-data vehicles in the combination, unless the manufacturer's engineering analysis demonstrates to the satisfaction of the Administrator that the data is representative.

(6)(i) Upon completion of in-use mileage accumulation for all vehicles in an engine family-control system combination, the emission test results collected during mileage accumulation will be used in the calculation of the in-use deterioration factors in all model years for which certification has not yet been granted. However, the manufacturer may elect to replace the emission test results from the original durability-data fleet with results from an additional fleet.

(ii) At the request of the manufacturer, the Administrator shall select durability-data vehicle configurations for the additional fleet, equal in number to the original fleet. Once notified of the Administrator's selection, the manufacturer may select a specific production vehicle for each configuration from the current model year and begin to accumulate mileage (first Durability Driving Schedule mileage, then in-use mileage) on those engines. The manufacturer shall meet the requirements of this section in conducting this service accumulation.

(iii) The manufacturer is not required to wait until the original fleet completes service accumulation before beginning an additional fleet. Multiple additional fleets are allowed. No two fleets for a single combination may contain vehicles produced in a single model year.

(iv) Emission test results from the original fleet shall be used to calculate all official in-use deterioration factors until an additional fleet has completed service accumulation. Once an additional fleet has done so, emission test results from that additional fleet shall be used to calculate deterioration factors until another additional fleet of later model year vehicles has completed service accumulation.

(7) If the manufacturer states in its application for certification that an engine family-control system combination, for which it seeks a certificate of conformity with applicable standards of § 86.083–9 for the 1983 or 1984 model year will not be produced past the 1984 model year, the Administrator shall waive the requirement for in-vehicle service accumulation for that combination.

(8)(i) The Administrator may waive the requirement for in-use mileage accumulation for a small volume manufacturer (one which meets the requirements of § 86.083–24(e)), for any engine family-control system combination which the Administrator determined may be expected to have exhaust emission deterioration characteristics similar to those of another combination (produced by any manufacturer) which is undergoing or has completed in-vehicle service accumulation. The Administrator will base the determination on the physical similarity of the two combinations and on the service applications to which vehicles belonging to the combinations are commonly put. If the Administrator does waive in-use mileage accumulation, the in-use deterioration factors derived from the other combination (which is undergoing or has completed in-vehicle service accumulation) will be applied to the combination for which the requirement is waived.

(ii) If a manufacturer for which the Administrator has previously waived in-use mileage accumulation under paragraph (c)(8)(i) of this section ceases to be a small volume manufacturer, the Administrator may withdraw the waiver and require the manufacturer to begin in-use mileage accumulation using production engines from the model year in which the manufacturer ceased to be a small volume manufacturer. In-use deterioration factors derived from the other combination (which has been undergoing or has completed in-use mileage accumulation) shall continue to be used until one vehicle in the manufacturer's own fleet has reached the 24,000-mile point.

(9)(i) Data from all emission tests (including voideds tests) shall be air posted to the Administrator within 72 hours (or delivered within 5 working days). The manufacturer shall furnish to the Administrator an explanation for voiding any test. The Administrator will determine if voiding the test was appropriate based upon the explanation given by the manufacturer for the voided

test. The Administrator may require emission tests at points in addition to those specified in this subpart. In addition, all test data shall be compiled and provided to the Administrator in accordance with § 86.083–23. Where the Administrator conducts a test on a durability-data vehicle at a prescribed test point, the results of that test will be used in the calculation of the deterioration factor.

(ii) The results of all emission tests shall be recorded and reported to the Administrator using two places to the right of the decimal point. These numbers shall be rounded in accordance with the "Rounding Off Method" specified in ASTM E 29–67.

(10) Whenever the manufacturer proposes to operate and test a vehicle which may be used for emission or durability data, it shall provide such information concerning components used on the vehicle as the Administrator may require and make the vehicle available for such testing under § 86.083–29 as the Administrator may require, before beginning to accumulate mileage on the vehicle. Failure to comply with this requirement will invalidate all test data later submitted for this vehicle.

(11) Once the manufacturer begins to operate an emission-data or durability-data vehicle, as indicated by compliance with paragraph (c)(1) of this section, it shall continue to run any emission-data vehicle to 4,000 miles plus or minus 250 miles and shall complete the in-use mileage accumulation as required by this section. The manufacturer may not remove a durability-data vehicle from the durability fleet except as required or permitted by this section.

(12)(i) The Administrator may elect to test any test vehicle during all or any part of the mileage accumulation and testing procedure. In such cases the manufacturer shall provide the vehicle(s) to the Administrator with all information necessary to conduct the testing.

(ii) The test procedures (Subparts B and P of this part) will be followed by the Administrator. Maintenance may be performed by the manufacturer under such conditions as the Administrator may prescribe.

(iii) The data developed by the Administrator for the engine-system combination shall be combined with any applicable data supplied by the manufacturer on other vehicles of that combination to determine the applicable deterioration factors for the combination. In the case of a significant discrepancy between data developed by the Administrator and that submitted by the manufacturer, the Administrator's data shall be used in the determination of deterioration factors.

(13) Emission testing of any type with respect to any certification vehicle other than that specified in this subpart is not allowed except as such testing may be specifically authorized by the Administrator.

10. A new § 86.083–28 is proposed to read:

§ 86.083–28 Compliance with emission standards.

(a)(1) Paragraph (a) of this section applies to light-duty vehicles.

(2) The applicable exhaust and fuel evaporative emission standards of this subpart apply to the emissions of vehicles for their useful life.

(3) Since it is expected that emission control efficiency will change with mileage accumulation on the vehicle, the emission level of a vehicle which has accumulated 50,000 miles will be used as the basis for determining compliance with the standards.

(4) The procedure for determining compliance of a new motor vehicle with exhaust emission standards is as follows:

(i) Separate emission deterioration factors shall be determined from the exhaust emission results of the durability-data vehicle(s) for each engine-system combination. A separate factor shall be established for exhaust HC, exhaust CO, and exhaust NO_x for each engine-system combination. A separate evaporative emission deterioration factor shall be determined for each evaporative emission family-evaporative emission control system combination from the testing conducted by the manufacturer.

(A) The applicable results to be used in determining the exhaust emission deterioration factors for each engine-system combination shall be:

(1) All valid exhaust emission data from the tests required under § 86.079–26(a)(4) except the zero-mile tests. These shall include the official test results, as determined in § 86.079–29 for all tests conducted on all durability-data vehicles of the combination selected under § 86.079–24(c) (including all vehicles elected to be operated by the manufacturer under § 86.079–24(c)(1)(ii)).

(2) All exhaust emission data from the tests conducted before and after the scheduled maintenance provided in § 86.079–25.

(3) All exhaust emission data from test required by maintenance approved under § 86.079–25, in those cases where the Administrator conditioned his approval for the performance of such maintenance on the inclusion of such data in the deterioration factor calculation.

(B) All applicable exhaust emission results shall be plotted as a function of the mileage on the system, rounded to the nearest mile, and the best fit straight lines, fitted by the method of least squares, shall be drawn through all these data points. The interpolated 4,000- and 50,000-mile points on this line must be within the standards provided in § 86.078–8 or § 86.079–8, as applicable, or the data will not be acceptable for use in calculaiton of a deterioration factor, unless no applicable data point exceeded the standard. An exhaust emission deterioration factor shall be calculated for each engine-system combination as follows:

Factor = Exhaust emissions interpolated to 50,000 miles ÷ exhaust emissions interpolated to 4,000 miles.

These interpolated values shall be carried out to a minimum of four places to the right of the decimal point before dividing one by the other to determine the deterioration factor. The results shall be rounded to three places to the right of the decimal point in accordance with ASTME 29–67.

(C) An evaporative emission deterioration factor shall be determined from the testing conducted as described in § 86.079–21(b)(4)(ii), for each evaporative emission family-evaporative emission control system combination to indicate the evaporative emission level at 50,000 miles relative to the evaporative emission level at 4,000 miles as follows:

Factor = Evaporative emission level at 50,000 miles minus the evaporative emission level at 4,000 miles.

The factor shall be established to a minimum of two places to the right of the decimal.

(ii)(A) The official exhaust emission test results for each emission-data vehicle at the 4,000-mile test point shall be multiplied by the appropriate deterioration factor: *Provided,* That if a deterioration factor as computed in paragraph (a)(4)(i)(B) of this section is less than one, that deterioration factor shall be one for the purposes of this paragraph.

(B) The official evaporative emission test results for each evaporative emission-data vehicle at the 4,000-mile test points hall be adjusted by addition of the appropriate deterioration factor: *Provided,* That if a deterioration factor as computed in paragraph (a)(4)(i)(C) of this section is less than zero, that

deterioration factor shall be zero for the purposes of this paragraph.

(iii) The emissions to compare with the standard shall be the adjusted emissions of paragraph (a)(4)(ii)(A) and (B) of this section for each emission-data vehicle. Before any emission value is compared with the standard, it shall be rounded, in accordance with ASTME 29–67, to two significant figures. The rounded emission values may not exceed the standard.

(iv) Every test vehicle of an engine family must comply with the exhaust emission standards, as determined in paragraph (a)(4)(iii) of this section, before any vehicle in that family may be certified.

(v) Every test vehicle of an evaporative emission family must comply with the evaporative emission standards, as determined in paragraph (a)(4)(iii) of this section, before any vehicle in that family may be certified.

(b)(1) Paragraph (b) of this section applies to heavy-duty engines.

(2) The exhaust emission standards for gasoline-fueled engines in § 86.079–10 or for Diesel engines in § 86.079–11 apply to the emissions of engines for their useful life.

(3) Since emission control efficiency decreases with the accumulation of hours on the engine, the emission level of a gasoline-fueled engine which has accumulated 1,500 hours of dynamometer operation or a Diesel engine which has accumulated 1,000 hours of dynamometer operation will be used as the basis for determining compliance with the standards.

(4) The procedure for determing compliance of a new engine with exhaust emission standards is as follows:

(i) Separate emission deterioration factors shall be determined from the emission results of the durability-data engines for each engine-system combination. Separate factors shall be established for HC, CO, and for the combined emissions of HC and NO_x. For Diesel engines, separate factors shall also be established for the acceleration mode (designated as "A"), the lugging mode (designated as "B") and the peak opacity (designated as "C").

(A) The applicable results to be used in determining the deterioration factors for each combination shall be:

(*1*) All valid emission data from the tests required under § 86.079–28(b). These shall include the official test results, as determined in § 86.079–29, for all tests conducted on all gasoline-fueled durability-data engines of the combination selected under § 86.079–24(c)(2) or on all Diesel durability-data engines of the combination selected under § 86.079–24(c)(3) (including all engines elected to be operated by the manufacturer under § 86.079–24(c)(2)(iii) for gasoline-fueled engines or under § 86.079–24(c)(3)(ii) for Diesel engines).

(*2*) All emission data from the tests conducted before and after maintenance provided in § 86.079–25(c)(2)(i)(A) for gasoline-fueled engines or in § 86.079–25(c)(2)(i)(B) for Diesel engines.

(*3*) All emission data from the tests conducted before and after maintenance provided in § 86.079–25(c)(2)(v)(C) for Diesel engines if emission tests were conducted.

(B) All applicable emission results for (1) HC, (2) CO, (3) HC+NOx, (4) acceleration smoke ("A"), (5) lugging smoke ("B"), and (6) peak smoke ("C") shall be plotted as a function of durability hours which shall be consistently rounded to the nearest hour. Emission data shall have two figures to the right of the decimal. The best fit straight lines, fitted by the method of least squares, shall be drawn through these data points. The interpolated 125-hour and 1,500-hour points for gasoline-fueled engines or the 1,000-hour point for Diesel engines on each line, rounded to whole numbers in accordance with ASTM E 29–67, must be within the standards specified in § 86.079–10 for gasoline-fueled engines or in § 86.079–11 for Diesel engines or the data shall not be used in the calculation of a deterioration factor, unless no applicable data points exceed the standards.

(C) The interpolated values shall be used to calculate a deterioration factor as follows:

Factor = Exhaust emissions interpolated to 1,500 hours for gasoline-fueled engines or to 1,000 hours for Diesel engines minus the exhaust emissions interpolated to 125 hours. (Negative deterioration factors shall be considered zero.)

(ii) The appropriate deterioration factor, carried out to two places to the right of the decimal point, shall be added to the exhaust emission test results, carried out to two places to the right of the decimal point, for each emission-data engine.

(iii) The emission values to compare with the standards shall be the adjusted emission values of paragraph (b)(4)(ii) of this section rounded to two significant figures in accordance with ASTM E 29–67 for each emission-data engine.

(iv) Every test engine of engine family must comply with all applicable standards, as determined in paragraph (b)(4)(iii) of this section, before any engine in that family will be certified.

(c)(1) Paragraph (c) of this section applies to light-duty trucks.

(2) The exhaust and fuel evaporative emission standards of § 86.083–9 apply to the emissions of vehicles for their useful life.

(3) Since emission control efficiency generally decreases with mileage accumulation on the vehicle, deterioration factors will be used in combination with emission-data vehicle test results as the basis for determining compliance with the standards.

(4)(i) Paragraph (c)(4) of this section describes the procedure for determining compliance of a new vehicle with exhaust emission standards, based on preliminary deterioration factors supplied by the manufacturer. The procedure described here shall be used for the first model year for which the manufacturer applies for a certificate of conformity with the standards of § 86.083–9 for an engine family-control system combination. The procedure also shall be used for the following model year if no durability-data vehicle in the combination has accumulated at least 24,000 miles three months prior to the new model year.

(ii) Separate preliminary exhaust emission deterioration factors, determined from tests of vehicles, engines, subsystems, or components conducted by the manufacturer, shall be supplied for each engine-system combination. Separate factors shall be established for transient HC, CO, and NOx, idle HC, idle CO, and exhaust particulate (diesel vehicles only).

(iii) For transient HC, CO, and NOx, idle HC, idle CO, and exhaust particulate (diesel vehicles only), the official exhaust emission results for each emission-data vehicle at the 4,000-mile test point shall be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this paragraph.

(iv) The emission values to compare with the standards shall be the adjusted emission values of paragraph (c)(4)(iii) of this section rounded to two significant figures in accordance with ASTM E 29–67 for each emission-data engine.

(5)(i) Paragraph (c)(5) of this section describes the procedure for determining compliance of a new vehicle with exhaust emission standards, based on partial or full results of in-use mileage accumulation. The proceudre described here shall be used for any engine family-control system combination which has been certified to the standards of § 86.083–9 in a previous model year and

for which at least one vehicle in the durability-data fleet has accumulated 24,000 miles three months prior to the new model year.

(ii) Separate emission deterioration factors shall be determined from the emission results collected to date from the durability-data vehicles in each engine-system combination. Separate factors shall be established for transient HC, CO, and NOx, idle HC, idle CO, and exhaust particulate (diesel vehicles only).

(A) The applicable results to be used in determining the deterioration factors for each combination shall be:

(*1*) The results of the emission tests conducted on durability-data vehicles after accumulating 4,000 miles according to the Durability Driving Schedule.

(*2*) The results of all emission tests conducted on durability-data vehicles during in-use mileage accumulation, as required or permitted by § 86.083–26(c)(5)(vi), except those excluded under §§ 86.083–25(b)(1)(ix) or 86.083-26(c)(5)(vii).

(B) All applicable exhaust emission results for (1) transient HC, (2) transient CO, (3) transient NOx, (4) idle HC, (5) idle CO, and (6) exhaust particulate (diesel vehicles only) shall be plotted as a function of accumulated miles. Separate plots shall be made for each durability-data vehicle which has been tested in the 24,000 to 27,000 mileage interval. Emission results for vehicles which have not yet been tested in this interval shall not be used in the calculation of the deterioration factors. The best fit straight lines, fitted by the method of least squares, shall be drawn through these data points.

(C) Exhaust emission deterioration factors for each engine contributing emission results to the calculation, for transient HC, CO, and NOx, idle HC, idle CO, and exhaust particulate (diesel vehicles only) shall be calculated by whichever of the following two methods result in the larger factor.

(*1*) Divide exhaust emissions extrapolated using the best fit straight line (or interpolated if in-use mileage accumulation is complete) to the useful life point of each vehicle by the exhaust emissions interpolated to the 4,000-mile point. A factor less than one shall be set equal to one.

(*2*) Divide the largest emission test result (or the largest average of results at a single test point if the manufacturer conducted multiple tests at each point) for each vehicle by the result of the test (or the average of the tests) of the vehicle after 4,000 miles of Durability Driving Schedule operation. A factor less than one shall be set equal to one.

(D) The single deterioration factor for each engine family-control system combination, for each of transient HC, CO, and NOx, idle HC, idle CO, and exhaust particulate (diesel vehicles only) shall be the arithmetic mean of the corresponding factors for each vehicle as determined in paragraph (c)(5)(ii)(C) of this section.

(iii) For transient HC, CO, and NOx, idle HC, idle CO, and exhaust particulate (diesel vehicles only), the official exhaust emission results for each emission-data vehicle at the 4,000-mile test point shall be adjusted by multiplication by the appropriate deterioration factor.

(iv) The emission values to compare with the standards shall be the adjusted emission values of paragraph (c)(5)(iii) of this section rounded to two significant figures in accordance with ASTM E 29–67 for each emission-data vehicle.

(6)(i) Paragraph (c)(6) of this section describes the procedure for determining compliance of a new vehicle with fuel evaporative emission standards. The procedure described here shall be used for all vehicles in all model years.

(ii) The manufacturer shall determine, based on testing described in § 86.083–21(b)(4)(ii), and supply an evaporative emission deterioration factor for each evaporative emission family-evaporative emission control system combination. The factor shall be calculated by subtraction the emission level at 4,000 miles from the emission level at the useful life point.

(iii) The official evaporative emission test results for each evaporative emission-data vehicle at the 4,000-mile test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(iv) The emission value to compare with the standards shall be the adjusted emission value of paragraph (c)(6)(iii) of this section rounded to two significant figures in accordance with ASTM E 29–67 for each evaporative emission-data vehicle.

(7) Every test vehicle of an engine family must comply with all applicable standards, as determined in paragraph (c)(4)(iv) or (c)(5)(iv) and paragraph (c)(6) of this section, before any vehicle in that family will be certified.

11. A new § 86.083–30 is proposed to read:

§ 86.083–30 Certification.

(a) (1) If after a review of the test reports and data submitted by the manufacturer, data derived from any inspection carried out under § 86.078–7(c) and any other pertinent data or information, the Administrator determines that a test vehicle(s) (or test engine(s)) meets the requirements of the Act and of this subpart, he will issue a certificate of conformity with respect to such vehicle(s) (or engine(s)) except in cases covered by paragraph (c) of this section. If applicable, the certificate will state which vehicles are certified for sale at high altitude.

(2) Such certificate will be issued for such period not to exceed one model year as the Administrator may determine and upon such terms as he may deem necessary to assure that any new motor vehicle (or new motor vehicle engine) covered by the certificate will meet the requirements of the Act and of this part. Each such certificate shall contain the following language:

This certificate covers only those new motor vehicles (or new motor vehicle engines) which conform, in all material respects, to the design specifications that applied to those vehicles (or engines) described in the application for certification and which are produced during the ——— model year production period of the said manufacturer, as defined in 40 CFR 86.079–2.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 86.078–7(c) which concern either the vehicle (or engine) certified, or any production vehicle (or production engine) covered by this certificate, or any production vehicle (or production engine) which when completed will be claimed to be covered by this certificate. Failure to comply with all the requirements of § 86.078–7(c) with respect to any such vehicle (or engine) may lead to revocation or suspension of this certificate as specified in 40 CFR § 86.079–30(c). It is also a term of this certificate that this certificate may be revoked or suspended for the other reasons stated in § 86.079–30 (c) or (d).

(3) One such certificate will be issued for each engine family and will certify compliance with no more than one set of applicable standards except that for gasoline-fueled light-duty vehicles and light-duty trucks, one such certificate will be issued for each engine family-evaporative emission family combination and will certify compliance with no more than one set of applicable standards.

(4) A violation of section 203(a)(1) of the Clean Air Act occurs when any manufacturer sells, offers for sale, introduces or delivers for introduction into commerce any light-duty vehicle or light-duty truck, subject to the regulations under the Act, which is not

covered by a certificate of conformity at high altitude issued under this part:

(i) At a designated high-altitude location, unless such manufacturer has substantial reason to believe that such motor vehicle will not be sold to an ultimate purchaser for principal use at a designated high-altitude location; or,

(ii) At an other than designated high-altitude location, when such manufacturer has reason to believe that such motor vehicle is intended by the ultimate purchaser to be used principally at a designated high-altitude location.

(5) For the purpose of paragraph (a) of this section, "designated high-altitude location" is any county which has substantially all of its area located above 1,219 meters (4,000 feet) and which is identified below.

Counties Located Substantially Above 1,219 Meters (4,000 feet) in Elevation

State of Arizona

Apache	Navajo

State of Colorado

Adams	Jefferson
Alamosa	Lake
Arapahoe	La Plata
Archuleta	Larimer
Boulder	Las Animas
Chaffee	Lincoln
Clear Creek	Mesa
Conejos	Mineral
Costilla	Moffat
Crowley	Montezuma
Custer	Montrose
Dolores	Morgan
Delta	Ouray
Denver	Park
Douglas	Pitkin
Eagle	Pueblo
Elbert	Rio Banco
El Paso	Rio Grande
Fremont	Routt
Garfield	Saguache
Gilpin	San Juan
Grant	San Miguel
Gunnison	Summit
Hinsdale	Teller
Huerfano	Washington
Jackson	Weld

State of Idaho

Bannock	Custer
Bear Lake	Franklin
Bingham	Fremont
Blaine	Jefferson
Bonneville	Madison
Butte	Minidoka
Camas	Oneida
Caribou	Power
Cassia	Teton
Clark	Valley

State of Montana

Beaverhead	Madison
Deer Lodge	Meagher
Gallatin	Park
Jefferson	Silver Bow

State of Nebraska

Banner	Sioux
Kimball	

State of Nevada

Carson City	Lander
Douglas	Lyon
Elko	Mineral
Esmeralda	Storey
Eureka	White Pine
Humboldt	

State of New Mexico

Bernalillo	Mora
Catron	Rio Arriba
Colfax	Sandoval
Curry	San Juan
De Baca	San Miguel
Grant	Santa Fe
Guadalupe	Sierra
Harding	Socorro
Lincoln	Taos
Los Alamos	Torrance
Luna	Union
McKinley	Valencia

State of Oregon

Lake

State of Utah

Beaver	Piute
Box Elder	Rich
Cache	Salt Lake
Carbon	San Juan
Daggett	Sanpete
Davis	Sevier
Duchesne	Summit
Emery	Tooele
Grand	Uintah
Iron	Utah
Juab	Wasatch
Kane	Wayne
Millard	Weber
Morgan	

State of Wyoming

Albany	Natrona
Carbon	Niobrara
Converse	Park
Fremont	Platte
Goshen	Sublette
Hot Springs	Sweetwater
Johnson	Teton
Laramie	Uinta
Lincoln	Weston

(6) The provisions of paragraph (a)(4) of this section shall not apply to any light-duty vehicle or light-duty truck, sold, offered for sale, introduced, or delivered for introduction into commerce in California, provided that the vehicle is covered by a certificate of conformity with emission standards in effect in California.

(7) Certificates issued for light-duty vehicles or light-duty trucks certified with catalytic converters shall be subject to the following term in addition to the term in paragraph (a)(2) of this section: "Catalyst-equipped vehicles, otherwise covered by this certificate, which are driven outside the United States, Canada, and Mexico will be presumed to have been operated on leaded gasoline resulting in deactivation of the catalysts. If these vehicles are imported or offered for the importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by a manufacturer or a United States Government Agency and approved by the Administrator."

(8) Certificates issued for incomplete light-duty trucks shall be subject to the following term in addition to the term in paragraph (a)(2) of this section: "For incomplete light-duty trucks, this certificate covers only those new motor vehicles which when completed by having the primary load-carrying device or container attached, conform to the maximum curb weight and frontal area limitations described in the application for certification as required in 40 CFR 86.079–21(d)."

(9) Certificates issued for heavy-duty engines shall be subject to the following term in addition to the term in paragraph (a)(2) of this section: "For heavy-duty engines, this certificate covers only those new motor vehicle engines installed in heavy-duty vehicles which conform to the minimum gross vehicle weight rating, curb weight, or frontal area limitations for heavy-duty vehicles described in 40 CFR 86.079–2."

(b)(1) The Administrator will determine whether a vehicle (or engine) covered by the application complies with applicable standards by observing the following relationships:

(i) *Light-duty vehicles.* (A) The durability-data vehicle(s) selected under § 86.079–24(c)(1)(i) shall represent all vehicles of the same engine-system combination.

(B) The emission-data vehicle(s) selected under § 86.079–24 (b)(1)(ii), (b)(1)(iii), and (b)(1)(iv) shall represent all vehicles of the same engine-system combination as applicable to be sold below 4,000 ft.

(C) The emission-data vehicle(s) selected under § 86.079–24(b)(1)(ii)(A) and (b)(i)(vii)(B) shall represent all vehicles of the same evaporative control system within the evaporative family, as applicable, to be sold below 4,000 ft.

(D) The emission-data vehicle(s) selected under § 86.079–24(b)(1)(v) shall represent all vehicles of the same engine-system combination to be sold at high altitude.

(E) The emission-data vehicle(s) selected under § 86.079–24(b)(1)(vii)(D) shall represent all vehicles of the same evaporative control system within the evaporative family sold at high altitude.

(ii) *Gasoline-fueled heavy-duty engines.* (A) A test engine selected under § 86.079–24(b)(2) (ii) and (iv) shall represent all engines in the same engine family of the same engine displacement-exhaust emission control system combination.

(B) A test engine selected under § 86.079–24(b)(2)(iii) shall represent all engines in the same engine family of the same engine displacement-exhaust emission control system combination.

(C) A test engine selected under § 86.079–24(c)(2)(i) shall represent all engines of the same engine-system combination.

(iii) *Diesel heavy-duty engines.* (A) A test engine selected under § 86.079–24(b)(3)(ii) shall represent all engines in the same engine-system combination.

(B) A test engine selected under § 86.079–24(b)(3)(iii) shall represent all engines of that emission control system at the rated fuel delivery of the test engines.

(C) A test engine selected under § 86.078–24(c)(3)(i) shall represent all engines of the same engine-system combination.

(iv) *Light-duty trucks.* (A) The durability-data vehicles selected under § 86.083–24(c)(4)(ii) shall together represent all engines of the same engine-system combination.

(B) The emission-data vehicle(s) selected under § 86.083–24 (b)(1)(ii), (b)(1)(iii), and (b)(1)(iv) shall represent all vehicles of the same engine-system combination as applicable to be sold below 4,000 ft.

(C) The emission-data vehicle(s) selected under § 86.083–24(b)(1)(vii)(A) and (b)(i)(vii)(B) shall represent all vehicles of the same evaporative control system within the evaporative family, as applicable, to be sold below 4,000 ft.

(D) The emission-data vehicle(s) selected under § 86.083–24(b)(1)(v) shall represent all vehicles of the same engine-system combination to be sold at high altitude.

(E) The emission-data vehicle(s) selected under § 86.083–24(b)(1)(vii)(D) shall represent all vehicles, of the same evaporative control system within the evaporative family sold at high altitude.

(2) The administrator will proceed as in paragraph (a) of this section with respect to the vehicles (or engines) belonging to an engine family or engine family-evaporative emission family combination (as applicable), all of which comply with all applicable standards.

(3) If, after a review of the test reports and data submitted by the manufacturer, data derived from any additional testing conducted pursuant to § 86.079–29, data or information derived from any inspection carried out under § 86.078–7(c) or any other pertinent data or information, the Administrator determines that one or more test vehicles (or test engines) of the certification test fleet do not meet applicable standards, he will notify the manufacturer in writing, setting forth the basis for his determination. Within 30 days following receipt of the notification, the manufacturer may request a hearing on the Administrator's determination. The request shall be in writing, signed by an authorized representative of the manufacturer and shall include a statement specifying the manufacturer's objections to the Administrator's determination and data in support of such objections. If, after a review of the request and supporting data, the Administrator finds that the request raises a substantial factual issue, he shall provide the manufacturer a hearing in accordance with § 86.078–6 with respect to such issue.

(4) For light-duty vehicles and light-duty trucks the manufacturer may, at his option, proceed with any of the following alternatives with respect to an emission-data vehicle determined not in compliance with all applicable standards for which it was tested:

(i) Request a hearing under § 86.078–6; or

(ii) Remove the vehicle configuration (or evaporative vehicle configuration, as applicable) which failed, from his application;

(A) If the failed vehicle was tested for compliance with exhaust emission standards only: The Administrator may select, in place of the failed vehicle, in accordance with the selection criteria employed in selecting the failed vehicle, a new emission-data vehicle to be tested for exhaust emission compliance only.

(B) If the failed vehicle was tested for compliance with both exhaust and evaporative emission standards: The Administrator may select, in place of the failed vehicle, in accordance with the selection criteria employed in selecting the failed vehicle, a new emission-data vehicle which will be tested for compliance with both exhaust and evaporative emission standards. If one vehicle cannot be selected in accordance with the selection criteria employed in selecting the failed vehicle, then two vehicles may be selected (i.e., one vehicle to satisfy the exhaust emission vehicle selection criteria and one vehicle to satisfy the evaporative emission vehicle selection criteria). The vehicle selected to satisfy the exhaust emission vehicle selection criteria will be tested for compliance with exhaust emission standards only. The vehicle selected to satisfy the evaporative emission vehicle selection criteria will be tested for compliance with both exhaust and evaporative emission standards; or

(iii) Remove the vehicle configuration (or evaporative vehicle configuration, as applicable) which failed from the application and add a vehicle configuration(s), (or evaporative vehicle configuration(s), as applicable) not previously listed. The Administrator may require, if applicable, that the failed vehicle be modified to the new engine code (or evaporative emission code, as applicable) and demonstrate by testing that it meets applicable standards for which it was originally tested. In addition, the Administrator may select, in accordance with the vehicle selection criteria given in § 86.079–24(b), a new emission-data vehicle or vehicles. The vehicles selected to satisfy the exhaust emission vehicle selection criteria will be tested for compliance with exhaust emission standards only. The vehicles selected to satisfy the evaporative emission vehicle selection criteria will be tested for compliance with both exhaust and evaporative emission standards; or

(iv) Correct a component or system malfunction and show that with a correctly functioning system or component the failed vehicle meets applicable standards for which it was originally tested. The Administrator may require a new emission-data vehicle, of identical vehicle configuration (or evaporative vehicle configuration, as applicable) to the failed vehicle, to be operated and tested for compliance with the applicable standards for which the failed vehicle was originally tested.

(5) For heavy-duty engines the manufacturer may, at his option, proceed with any of the following alternatives with respect to any engine family represented by a test engine(s) determined not in compliance with applicable standards:

(i) Request a hearing under § 86.078–6; or

(ii) Delete from the application for certification the engines represented by the failing test engine. (Engines so deleted may be included in a later request for certification under § 86.079–32.) The Administrator will then select in place of each failing engine an alternate engine chosen in accordance with selection criteria employed in selecting the engine that failed; or

(iii) Modify the test engine and demonstrate by testing that it meets applicable standards. Another engine which is in all material respects the same as the first engine, as modified, shall then be operated and tested in accordance with applicable test procedures.

(6) If the manufacturer does not request a hearing or present the required data under paragraphs (b)(4) or (b)(5)

(as applicable) of this section, the Administrator will deny certification.

(c)(1) Notwithstanding the fact that any certification vehicle(s) (or certification engine(s) may comply with other provisions of this subpart, the Administrator may withhold or deny the issuance of a certificate of conformity (or suspend or revoke any such certificate which has been issued) with respect to any such vehicle(s) (or engine(s)) if:

(i) The manufacturer submits false or incomplete information in his application for certification thereof;

(ii) The manufacturer renders inaccurate or invalid any test data which he submits pertaining thereto or otherwise circumvents the intent of the Act or of this part with respect to such vehicle (or engine);

(iii) Any EPA Enforcement Officer is denied access on the terms specified in § 86.078–7(c) to any facility or portion thereof which contains any of the following:

(A) The vehicle (or engine);

(B) Any components used or considered for use in its modification or buildup into a certification vehicle (or certification engine);

(C) Any production vehicle (or production engine) which is or will be claimed by the manufacturer to be covered by the certificate;

(D) Any step in the construction of a vehicle (or engine) described in (C) of this subdivision;

(E) Any records, documents, reports, or histories required by this part to be kept concerning any of the above;

(iv) Any EPA Enforcement Officer is denied "reasonable assistance" (as defined in § 86.078–7(c)) in examining any of the items listed in paragraph (c)(1)(iii) of this section.

(v) [Reserved]

(i) The manufacturer fails to select light-duty truck durability-data vehicles of the appropriate engine family-control system combination within two months of the start of production of the appropriate configuration(s) as required by § 86.083–24(c)(4)(ii), or the manufacturer fails to place the durability-data vehicles into service within one month of selection, as required by § 86.083–26(c)(5)(i).

(2) The sanctions of withholding, denying, revoking, or suspending of a certificate may be imposed for the reasons in paragraphs (c)(1) (i), (ii), (iii), or (iv) of this section only when the infraction is substantial.

(3) In any case in which a manufacturer knowingly submits false or inaccurate information or knowingly renders inaccurate or invalid any test data or commits any other fraudulent acts and such acts contribute substantially to the Administrator's decision to issue a certificate of conformity, the Administrator may deem such certificate void ab initio.

(4) In any case in which certification of a vehicle (or engine) is proposed to be withheld, denied, revoked, or suspended under paragraph (c)(1)(iii) or (c)(1)(iv) of this section, and in which the Administrator has presented to the manufacturer involved reasonable evidence that a violation of § 86.078–7(c) in fact occurred, the manufacturer, if he wishes to contend that, even though the violation occurred, the vehicle (or engine) in question was not involved in the violation to a degree that would warrant withholding denial, revocation, or suspension of certification under either paragraph (c)(1)(iii) or (c)(1)(iv) of this section, shall have the burden of establishing that contention to the satisfaction of the Administrator.

(5) Any revocation or suspension of certification under paragraph (c)(1) of this section shall:

(i) Be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with § 86.078–6 hereof.

(ii) Extend no further than to forbid the introduction into commerce of vehicles (or engines) previously covered by the certification which are still in the hands of the manufacturer, except in cases of such fraud or other misconduct as makes the certification invalid ab initio.

(6)The manufacturer may request in the form and manner specified in paragraph (b)(3) of this section that any determination made by the Administrator under paragraph (c)(1) of this section to withhold or deny certification be reviewed in a hearing conducted in accordance with § 86.078–6. If the Administrator finds, after a review of the request and supporting data, that the request raises a substantial factual issue he will grant the request with respect to such issue.

(d)(1) Notwithstanding the fact that any vehicle configuration or engine family may be covered by a valid outstanding certificate of conformity, the Administrator may suspend such outstanding certificate of conformity in whole or in part with respect to such vehicle configuration or engine family if:

(i) The manufacturer refuses to comply with the provisions of a test order issued by the Administrator pursuant to § 86.603; or

(ii) The manufacturer refuses to comply with any of the requirements of § 86.603; or

(iii) The manufacturer submits false or incomplete information in any report or information provided pursuant to the requirements of § 86.609; or

(iv) The manufacturer renders inaccurate any test data which he submits pursuant to § 86.609; or

(v) Any EPA Enforcement Officer is denied access to a facility on the terms specified in § 86.606; or

(vi) Any EPA Enforcement Officer is denied the opportunity on the terms specified in § 86.606 to:

(A) Monitor vehicle selection pursuant to § 86.607; or

(B) Select vehicles for testing pursuant to § 86.607; or

(C) Monitor vehicle testing performed to satisfy any of the requirements of this part; of

(vii) Any EPA Enforcement Officer is denied "reasonable assistance" as defined in § 86.606 in examining any of the items listed in that section; or

(viii) The manufacturer refuses to comply with the requirements of §§ 86.604(a), 86.605, and 86.607, 86.608, 86.610, or 86.611

(2) The sanction of suspending a certificate may not be imposed for the reasons in paragraphs (d)(1) (i), (ii), or (viii) of this section where such refusal is caused by conditions and circumstances outside the control of the manufacturer which renders it impossible to comply with those requirements. Such conditions and circumstances shall include, but not be limited to, any uncontrollable factors which result in the temporary unavailability of equipment and personnel needed to conduct the required tests, such as equipment breakdown or failure or illness of personnel, but shall not include failure of the manufacturer to adequately plan for and provide the equipment and personnel needed to conduct the tests. The manufacturer will bear the burden of establishing the presence of the conditions and circumstances required by this paragraph.

(3) The sanctions of suspending a certificate may be imposed for the reasons in paragraphs (d)(1) (iii), (iv), (v), (vi), or (vii) of this section only when the infraction is substantial.

(4) In any case in which a manufacturer knowingly submitted false or inaccurate information or knowingly rendered inaccurate any test data or committed any other fraudulent acts, and such acts contributed substantially to the Administrator's original decision not to suspend or revoke a certificate of

conformity in whole or in part, the Administrator may deem such certificate void from the date of such fraudulent act.

(5) In any case in which certification of a vehicle is proposed to be suspended under paragraph (d)(1)(v), (d)(1)(vi), or (d)(1)(vii) of this section, and in which the Administrator has presented to the manufacturer involved reasonable evidence that a violation of § 86.606 in fact occurred, the manufacturer, if he wishes to contend that even though the voiolation occurred, the vehicle configuration or engine family in question was not involved in the violation to the degree that would warrant suspension of certification under either paragraph (d)(1)(v), (d)(1)((vi), or (d)(1)(vii) of this secton, shall have the burden of establishing that contention to the satisfaction of the Administrator.

(6) Any suspension of certification under paragraph (d)(1) of this section shall:

(i) Be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with § 86.613 hereof, and

(ii) Not apply to vehicles no longer in the hands of the manufacturer.

12. A new § 86.083–35 is proposed to read:

§ 86.083–35 Labeling.

(a) The manufacturer of any motor vehicle (or motor vehicle engine) subject to the applicable emission standards of this subpart, shall at the time of manufacturing, affix a permanent, legible label, of the type and in the manner described below, containing the information hereinafter provided, to all production models of such vehicles (or engines) available for sale to the public and covered by a certificate of conformity under § 86.083–30(a).

(1) *Light-duty vehicles.* (i) A permanent, legible label shall be affixed in a readily visible position in the engine compartment.

(ii) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity from such vehicle, in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(iii) The lable shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(A) The label heading: Vehicle Emission Control Information;

(B) Full corporate name and trademark of manufacturer;

(C) Engine displacement (in cubic inches), engine, family identification and evaporative family identification;

(D) Engine tuneup specifications and adjustments, as recommended by the manufacturer in accordance with the altitude at which the vehicle is to be sold to the ultimate purchaser, including but not limited to idle speed(s), ignition timing, the idle air-fuel mixture setting procedure and value (e.g., idle CO, idle air-fuel ratio, idle speed drop), high idle speed, initial injection timing, and valve lash (as applicable) as well as other parameters deemed necessary by the manufacturer. These specifications should indicate the proper transmission position during tuneup and what accessories (e.g., air-conditioner), if any, should be in operation;

(E) An unconditional statement of compliance with the appropriate model year U.S. Environmental Protection Agency regulations which apply to light-duty vehicles oir light-duty trucks;

(F) The altitude at which the vehicle is intended for sale to the public as specified by a certificate of conformity under § 86.079–30.

(2) *Heavy-duty engines.* (i) A permanent legible label shall be affixed to the engine in a position in which it will be readily visible after installation in the vehicle.

(ii) The lable shall be attached to an engine part necessary for normal engine operation and not normally requiring replacement during engine life.

(iii) The label shall contain the following information lettered in the English language in block letters and numerals which shall be of a color that contrasts with the background of the label:

(A) The label heading: Engine Exhaust Emission Control Information;

(B) Full corporate name and trademark of manufacturer;

(C) Engine displacement (in cubic inches) and engine family and model designations;

(D) Date of engine manufacture (month and year);

(E) Engine specifications and adjustments as recommended by the manufacturer. These specifications should indicate the proper transmission position during tuneup and what accessories (e.g., air conditioner), if any, should be in operation;

(F) For gasoline-fueled engines the lable should include the idle speed, ignition timing, and the idle air-fuel mixture setting procedure and value (e.g., idle CO, idle air-fuel ratio, idle speed drop), and valve lash.

(G) For Diesel engines the label should include the advertised hp. at rpm fuel rate at advertised hp. in mm ^{3}/ stroke, valve lash, initial injection timing, and idle speed.

(H) An unconditional statement of compliance with the appropriate model year (e.g. 1979) U.S. Environmental Protection Agency regulations applicable to heavy-duty engines.

(iv) The label may be made up of one or more pieces: *Provided,* That all pieces are permanently attached to the same engine or vehicle part as applicable.

(3) *Light-duty trucks.* (i) A legible, permanent label shall be affixed in a readily visible position in the engine compartment.

(ii) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity for such vehicle, in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(iii) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(A) The label heading: Important Vehicle Information;

(B) Full corporate name and trademark of manufactuer;

(C) Engine displacement (in cubic inches) and engine family identification;

(D) Engine tuneup specifications and adjustments, as recommended by the manufacturer to the ultimate purchaser, including but not limited to idle speed(s), ignition timing, the idle air-fuel mixture setting procedure and value (e.g., idle CO, idle air-fuel ratio, idle speed drop), high idle speed, initial injection timing, and valve lash (as applicable) as well as other parameters deemed necessary by the manfacturer. These specifications should indicate the proper transmission position during tuneup and what accessories (e.g., air-conditioner), if any, should be in operation. If a manufacturer provides tuneup specifications and adjustments for its vehicle for operation at an altitude other than that at which compliance was demonstrated, e.g., adjustments for operation below 1,219 meters for vehicles which demonstrated compliance at elevations above 1,219 meters, the manufacturer may either include these specifications and adjustments on its engine compartment label, or may indicate on the label where these adjustments might be

found, i.e., by reference to the owner's manual or shop manual.

(E) The prominent statement: "(Manufacturer's corporate name) has determined that this vehicle has an average useful life before retirement or engine replacement or rebuild of miles or hours of operation, whichever occurs first. This vehicle conforms to U.S. EPA regulations applicable to 19 Model Year New Light-Duty Trucks, for this period." The manufacturer may alter this statement only to express the useful life in terms other than miles or hours (e.g., years, or hours only).

(F) The altitude at which the vehicle has demonstrated compliance with the applicable emission standards as specified by the certificate of conformity issued under § 86.083–30. (An example of an acceptable statement is: "Compliance demonstrated above/below 4,000 feet.")

(b) The provisions of this section shall not prevent a manufacturer from also reciting on the label that such vehicle (or engine) conforms to any applicable State emission standards for new motor vehicles (or new motor vehicle engines) or any other information that such manufacturer deems necessary for, or useful to, the proper operation and satisfactory maintenance of the vehicle (or engine).

(c)(1) The manufacturer of any light-duty vehicle or light-duty truck subject to the emission standards of this subpart shall, in addition and subsequent to setting forth those statements on the label required by the Department of Transportation (DOT) pursuant to 49 CFR 567.4, set forth on the DOT label or on an additional label located in proximity to the DOT label and affixed as described in 40 CFR 567.4(b) the following information in the English language, lettered in block letters and numerals not less than three thirty-seconds of an inch high, of a color that contrasts with the background of the label:

(i) The Heading: "Vehicle Emission Control Information".

(ii)(A) *For light-duty vehicles,* the statement: "This Vehicle Conforms to U.S. EPA Regulations Applicable to 19 Model Year New Motor Vehicles."

(B) *For light-duty trucks,* the statement: "Manufacturer's Corporate Name Has Determined That This Vehicle Has an Average Useful Life Before Retirement or Engine Replacement or Rebuild of Miles or Hours of Operation, Whichever Occurs First. This Vehicle Conforms to U.S. EPA Regulations Applicable to 19 Model Year New Motor Vehicles, for This Period." The manufacturer may alter this statement only to express the useful life in terms other than miles or hours (e.g., years, or hours only.)

(iii) One of the following statements, as applicable, in letters and numerals not less than six thirty-seconds of an inch high and of a color that contrasts with the background of the label:

(A) For all vehicles certified as non-catalyst-equipped: "NON-CATALYST"

(B) For all vehicles certified as catalyst-equipped which are included in a manufacturer's catalyst control program for which approval has been given by the Administrator: "CATALYST—APPROVED FOR IMPORT"

(C) For all vehicles certified as catalyst-equipped which are not included in a manufacturer's catalyst control program for which prior approval has been given by the Administrator: "CATALYST"

(2) In lieu of selecting either of the labeling options of paragraph (c)(1) of this section, the manufacturer may add the information required by paragraph (c)(1)(iii) of this section to the label required by paragraph (a) of this section. The required information will be set forth in the manner prescribed by paragraph (c)(1)(iii) of this section.

(d) Incomplete light-duty trucks or incomplete heavy-duty vehicles optionally certified as light-duty trucks shall have the following statement printed on the label required in paragraph (a)(3) of this section in lieu of the statement required by paragraph (a)(3)(iii)(E) of this section: "(Manufacturer's corporate name) has determined that this vehicle has an average useful life before retirement or engine replacement or rebuild of —— miles or —— hours of operation, whichever occurs first. This vehicle conforms to U.S. EPA regulations applicable to 19— Model Year New Motor Vehicles when completed at a maximum curb weight of —— pounds and a maximum frontal area of —— square feet, for this period."

(e) Incomplete heavy-duty vehicles having an 8,500 pound gross vehicle weight rating or less shall have the following statement printed on the label required in paragraph (a)(2) or (a)(3) of this section in lieu of the statement required by paragraph (a)(2)(iii)(F) or (a)(3)(iii)(F) of this section: "This engine conforms to U.S. EPA regulations applicable to 19— Model Year New Heavy-Duty Engines when installed in a vehicle completed at a curb weight of more than 6,000 pounds or with a frontal area greater than 46 square feet."

(f) The manufacturer of any incomplete vehicle shall notify the purchaser of such vehicle of any curb weight, frontal area, or gross vehicle weight rating limitations affecting the emissions certificate applicable to that vehicle. This notification shall be transmitted in a manner consistent with National Highway Traffic Safety Administration safety notification requirements published in 49 CFR part 568.

13. A new § 86.083–38 is proposed to read:

§ 86.083–38 Maintenance instructions.

(a) The manufacturer shall furnish or cause to be furnished to the purchaser of each new motor vehicle (or motor vehicle engine) subject to the standards prescribed in §§ 86.078–8, 86.079–9, 86.079–10, or 86.079–11, as applicable, written instructions for the maintenance and use of the vehicle (or engine) by the purchaser as may be reasonable and necessary to assure the proper functioning of emission control systems.

(1) Such instructions shall be provided for those vehicle and engine components listed in Appendix VI to this part (and for any other components) to the extent that maintenance of these components is necessary to assure the proper functioning of emission control systems.

(2) Such instructions shall be in clear, and to the extent practicable, nontechnical language.

(b) The maintenance instructions required by this section shall contain a general description of the documentation which the manufacturer will require from the ultimate purchaser or any subsequent purchaser as evidence of compliance with the instructions.

(c) *For gasoline-fueled light-duty vehicles.* (1) Such instructions shall specify the performance of all scheduled maintenance performed by the manufacturer under § 86.079–25(a)(2) or § 86.079–25(b)(2) as applicable, and shall explain the conditions under which EGR system and catalytic converter maintenance are to be performed (e.g., what type of warning device is being employed and whether the device is activated by component failure or the need for periodic maintenance).

(2) Such instructions shall indicate, for vehicles to be sold to ultimate purchasers at low altitude, what adjustments or modifications, if any, are necessary to allow the vehicle to meet emissions standards at high altitude. The maintenance instructions shall, if applicable, include a statement that the vehicle's emission control system was not designed for conversion to allow the

vehicle to meet emissions standards when operated at high altitude.

(3) Such instructions shall indicate, for vehicles to be sold to ultimate purchasers at high altitude, what adjustments or modifications, if any, are necessary to allow the vehicle to meet emissions standards at low altitude. The maintenance instructions shall, if applicable, include a statement that the vehicle's emission control system was not designed for conversion to allow the vehicle to meet emissions standards when operated at low altitude.

(d) *For diesel light-duty vehicles.* (1) Such instructions shall indicate, for vehicles to be sold to ultimate purchasers at low altitude, what adjustments or modifications, if any, are necessary to allow the vehicle to meet emissions standards at high altitude. The maintenance instructions shall, if applicable, include a statement that the vehicle's emission control system was not designed for conversion to allow the vehicle to meet emissions standards when operated at high altitude.

(2) Such instructions shall indicate, for vehicles to be sold to ultimate purchasers at high altitude, what adjustments or modifications, if any, are necessary to allow the vehicle to meet emissions standards at low altitude. The maintenance instructions shall, if applicable, include a statement that the vehicle's emission control system was not designed for conversion to allow the vehicle to meet emissions standards when operated at low altitude.

(e) For gasoline-fueled heavy-duty engines, such instructions shall specify the performance of all scheduled maintenance performed by the manufacturer under § 86.079–25(c)(2). Scheduled maintenance in addition to that performed on the durability-data engine under § 86.079–25(c)(2) may be recommended for reasons such as to offset the effects of operating conditions which differ from the dynamometer durability cycle or to increase the life of the engine beyond 1,500 hours (or the equivalent). The instructions may schedule maintenance on a calendar time basis and/or mileage basis in addition to the engine service time basis that was followed by the manufacturer under § 86.079–25(c)(2).

(f) For Diesel heavy-duty engines, such instructions shall specify the performance of all scheduled maintenance performed by the manufacturer under § 86.079–25(c)(2). Scheduled maintenance in addition to that performed on the durability-data engine under § 86.079–25(c)(2) may be recommended for reasons such as to offset the effects of operating conditions which differ from the dynamometer durability cycle or to increase the life of the engine beyond 1,000 hours (or the equivalent). The instructions may schedule maintenance on a calendar time basis, mileage basis, engine service time basis, or combinations of each.

(g) *For light-duty trucks.* (1) Such instructions shall specify the performance of all scheduled maintenance performed by the manufacturer under § 86.083–25(b), and shall explain the conditions under which maintenance to emission-related components for which visual signals are employed is to be performed (e.g., what type of warning device is being employed and whether the device is activated by component failure or the need for periodic maintenance).

(2) [Reserved]

(3) Such instructions shall specify the useful life of the vehicle as determined by the manufacturer. This useful life shall be expressed as a period of vehicle operation or as an equivalent vehicle mileage (or both). The manufacturer shall also include in the instructions an explanation of the method(s) used to determine the useful life of the vehicle. The explanation shall be in clear, nontechnical language that is understandable to the ultimate purchaser.

14. The existing § 86.601 of Subpart G is proposed to be amended to read:

86.601 Applicability.

The provisions of this subpart are applicable to all model year gasoline-fueled and diesel light-duty vehicles and are applicable to all gasoline-fueled and diesel light-duty trucks produced up until the end of the 1982 model year.

15. A new Subpart K is proposed to be added to Part 86 and reads as follows:

Note.—This proposed subpart is concerned only with regulations for light-duty trucks. EPA has previously proposed this subpart for heavy-duty engines in an independent Notice of Proposed Rulemaking.[1] However, for the purposes of the present proposed rulemaking, references to heavy-duty engines may be disregarded.

Subpart K—Selective Enforcement Auditing and Production Compliance Auditing of New Gasoline-Fueled and Diesel Heavy-Duty Engines and Light-Duty Trucks

Sec.

86.1001–83 Applicability.
86.1002–83 Definitions.
86.1003–83 Test orders.
86.1004–83 Testing by the Administrator.
86.1005–83 Maintenance of records; submittal of information.
86.1006–83 Entry and access.
86.1007–83 Sample selection.
86.1008–83 Test procedures.
86.1009–83 Calculation and reporting of test results.
86.1010–83 Compliance with acceptable quality level and passing and failing criteria for Selective Enforcement Audits.
86.1011–83 Production Compliance Auditing.
86.1012–83 Suspension and revocation of certificates of conformity.
86.1013–83 Nonconformance penalties.
86.1014–83 Hearings on suspension, revocation and voiding of certificates of conformity.
Appendix X—Sampling Plans for Initial Selective Enforcement Auditing of Heavy-Duty Engines and Light-Duty Trucks.

Authority.—Secs. 206, 208, 301(a) of the Clean Air Act as amended (42 U.S.C. 7525, 7542, 7601(a)).

Subpart K—Selective Enforcement Auditing and production Compliance Auditing of New Gasoline-Fueled and Diesel Heavy-Duty Engines and Light-Duty Trucks

§ 86.1001–83 Applicability.

The provisions of this subpart are applicable for 1983 and later model year gasoline-fueled and diesel heavy-duty engines and light-duty trucks.

§ 86.1002–83 Definitions.

(a) The definitions in this section apply to this subpart.

(b) As used in this subpart, all terms not defined herein have the meaning given them in the Act.

"Acceptable Quality Level" (AQL) means the maximum percentage of failing engines that, for purposes of sampling inspection, can be considered satisfactory as a process average.

"Compliance level" means the emissions level at the 90th percentile point for a population of heavy-duty engines or light-duty trucks subject to Production Compliance Audit testing pursuant to this subpart. A compliance level can be determined for each pollutant for which an upper limit has been established.

"Configuration" means a subclassification, if any, of a heavy-duty engine family for which a separate projected sales figure is listed in the manufacturer's Application for Certification and which can be described on the basis of emission control system, governed speed, injector size, engine calibration, and other parameters which may be designated by the Administrator, or a subclassification of a light-duty truck engine family-emission control system combination on the basis of engine code, inertia weight class, transmission type and gear ratios, rear axle ratio, and other parameters

[1] See 44 FR 9464, February 13, 1979.

which may be designated by the Administrator.

"In the Hands of the Manufacturer" means that heavy-duty engines or light-duty trucks are still in the possession of the manufacturer and have not had their bills of lading transferred to another person for the purpose of transporting.

"Upper limit" means the emission level for a specific heavyduty engine or light-duty truck pollutant beyond which certification for that engine or truck cannot be granted or for which the certificate of conformity can be suspended or revoked. The upper limits will be established by amendments to this part.

§ 86.1003–83 Test orders.

(a) The Administrator shall require any testing under this subpart by means of a test order addressed to the manufacturer.

(b) The test order will be signed by the Assistant Adminstrator for Enforcement or his designee. The test order will be delivered in person by an EPA Enforcement Officer to a company representative or sent by registered mail, return receipt requested, to the manufacturer's representative who signs the Application for Certification submitted by the manufacturer pursuant to the requirements of the applicable sections of Subpart A of this part. Upon receipt of a test order, the manufacturer shall comply with all of the provisions of this subpart and instructions in the test order.

(c) The test order will specify the engine or vehicle configuration selected for testing, the manufacturer's vehicle or engine assembly plant or associated storage facility from which the engines or vehicles must be selected, the time and location at which engines or vehicles must be selected, and the procedure by which engines or vehicles of the specified configuration must be selected. The test order may include alternative configurations to be selected for testing in the event that engines or vehicles of the first specified configuration are not available for testing because those engines or vehicles are not being manufactured at the specified assembly plant, not being manufactured during the specified time, or not being stored at the specified assembly plant or associated storage facility. In addition, the test order may include other directions or information essential to the administration of the required testing.

(d) A manufacturer may submit a list of engine families and the corresponding assembly plants or associated storage facilities from which the manufacturer prefers to have engines or vehicles selected for testing in response to a test order. In order that a manufacturer's preferred location be considered for inclusion in a test order for a configuration of a particular engine family, the list must be submitted prior to issuance of the test order. Notwithstanding the fact that a manufacturer has submitted the above list, the Administrator may order selection at other than a preferred location.

(e) Upon receipt of a test order, a manufacturer shall proceed in accordance with the provisions of this subpart.

(f)(1) During a given model year, the Administrator shall not issue to a manufacturer more Selective Enforcenment Auditing (SEA) test orders than an annual limit determined by the following:

(i) For heavy-duty gasoline engine manufacturers, the number determined by dividing the projected heavy-duty gasoline engine sales for that year, as made by the manufacturer in its Application for Certification, by 30,000 and rounding to the nearest whole number, unless the projected sales are less than 15,000, in which case the number is one;

(ii) For heavy-duty diesel engine manufacturers, the number determined by dividing the projected heavy-duty diesel engine sales for that year, as made by the manufacturer in its Application for Certification, by 10,000 and rounding to the nearest whole number, unless the projected sales are less than 5,000, in which case the number is one;

(iii) For manufacturers producing both gasoline and diesel heavy-duty engines, the numbers determined by applying paragraphs (f)(1)(i) and (f)(1)(ii) of this section apply individually for heavy-duty gasoline and diesel engines; or

(iv) For manufacturers of light-duty trucks, either gasoline-fueled or diesel, the number determined by dividing the projected light-duty truck sales for that model year, as made by the manufacturer in its Application for Certification, by 300,000 and rounding to the nearest whole number, unless the projected sales are less than 150,000, in which case the number is one.

(2) Any SEA test order for which the configuration fails in accordance with § 86.1010–83 or for which testing is not completed will not be counted against the annual limit.

(3) SEA test orders issued on the basis of any evidence which indicates noncompliance of a configuration with the AQL will not count toward the annual limit. An SEA test order issued on this basis will include a statement as to the reason for its issuance.

§ 86.1004–83 Testing by the Administrator.

(a) The Administrator may require by test order that engines or vehicles of a specified configuration be selected in a manner designated by him and submitted to him at such place as he may designate for the purpose of conducting emission tests. These tests will be conducted in accordance with § 86.1008–83 of these regulations to determine whether engines or vehicles manufacturered by the manufacturer conform with the regulations with respect to which the certificate of conformity was issued.

(b)(1) Whenever the Administrator conducts a test on a test engine or vehicle or the Administrator and manufacturer each conduct a test on the same test engine or vehicle, the results of the Administrator's test will comprise the official data for that engine or vehicle.

(2) Whenever the manufacturer conducts all tests on a test engine or vehicle, the manufacturer's test data will be accepted as the official data: *Provided,* That if the Administrator makes a determination based on testing under paragraph (a) of this section that there is a substantial lack of agreement between the manufacturer's test results and the Administrator's test results, no manufacturer's test data from the manufacturer's test facility will be accepted for purposes of this subpart.

(c) In the event that testing conducted under paragraph (a) of this section demonstrates a lack of agreement under paragraph (b)(2) of this section, the Administrator shall—

(1) Notify the manufacturer in writing of his determination that the test facility is inappropriate for conducting the tests required by this subpart and the reasons therefor; and

(2) Reinstate any manufacturer's data upon a showing by the manufacturer that the data acquired under paragraph (a) of this section was erroneous and the manufacturer's data was correct.

(d) The manufacturer may request in writing that the Administrator reconsider his determination in paragraph (b)(2) of this section based on data or information which indicates that changes have been made to the test facility and these changes have resolved the reasons for disqualification.

§ 86.1005–83 Maintenance of records; submittal of information.

(a) The manufacturer of any new gasoline-fueled or diesel heavy-duty engine or light-duty truck subject to any of the provisions of this subpart shall establish, maintain, and retain the following adequately organized and indexed records:

(1) *General records.* A description of all equipment used to test engines or vehicles in accordance with § 86.1008–83 pursuant to a test order issued under this subpart, specifically—

(i) If testing heavy-duty gasoline engines, the equipment requirements specified in §§ 86.1306–83 and 86.1506–83 of this part;

(ii) If testing heavy-duty diesel engines, the equipment requirements specified in §§ 86.1306–83, 86–1506–83, 86–879–6, 86.879–8, and 86.879–9 of this part;

(iii) If testing heavy-duty gasoline-fueled trucks, the equipment requirements specified in §§ 86.106 (excluding all references to evaporative and particulate emission testing) and 86.1506–83 of this part; and

(iv) If testing light-duty diesel trucks, the equipment requirements specified in §§ 86.106 (excluding all references to evaporative emission testing) and 86.1506–83 of this part.

(2) *Individual records.* These records pertain to each audit conducted pursuant to this subpart.

(i) The location where audit testing was performed;

(ii) The number of hours of service accumulated on the engine or the number of miles on the vehicle when the test began and ended;

(iii) The names of all personnel, including supervisory personnel, involved in the conduct of the test;

(iv) A record and description of any repairs performed prior to and/or subsequent to approval by the Administrator, giving the date and time of the repair, the reason for it, the person authorizing it, and the names of all personnel involved in the supervising and performance of the repair;

(v) The date when the engine or vehicle was shipped from the assembly plant or associated storage facility and when it was received at the testing facility;

(vi) A complete record of all emission tests performed pursuant to this subpart (except tests performed by EPA directly), including all individual worksheets and/or other documentation relating to each test, or exact copies thereof, specifically—

(A) If testing heavy-duty gasoline engines, the record requirements specified in §§ 86.1342–83 and 86.1542–83 of this part;

(B) If testing heavy-duty diesel engines, the record requirements specified in §§ 86.1342–83, 86.1542–83, and 86.879–10;

(C) If testing light-duty gasoline-fueled trucks, the record requirements specified in §§ 86.142 (excluding all references to diesel vehicles) and 86.1542–83; and

(D) If testing light-duty diesel trucks, the record requirements specified in §§ 86.142 and 86.1542–83; and

(vii) A brief description of any significant audit events commencing with the test engine or vehicle selection process, but not described by any subparagraph under paragraph (a)(2) of this section, including such extraordinary events as engine damage during shipment or vehicle accident.

(3) The manufacturer shall record test equipment description, pursuant to paragraph (a)(1) of this section, for each test cell that can be used to perform emission testing under this subprt.

(b) The manufacturer shall retain all records required to be maintained under this subpart for a period of one (1) year after completion of all testing in response to a test order. Records may be retained as hard copy or reduced to microfilm, punch cards, etc., depending upon the manufacturer's record retention procedure: *Provided,* That in every case all the information contained in the hard copy is retained.

(c) Heavy-duty engine or light-duty truck manufacturers shall submit to the Administrator on a quarterly basis no later than thirty days after the close of each calendar quarter all emission data, whether or not from FTP testing, from testing of production engines or vehicles. The manufacturer shall provide the following information with respect to these engines or vehicles:

(1) Description of quality audit or other program under which production engines or vehicles are tested including a description of sampling plans, method of sample selection, sampling rates, and emissions test employed.

(2) EPA engine family.

(3) Engine or vehicle identification number.

(4) Configuration.

(5) Engine or vehicle model year and build date.

(6) Number of hours of service accumulated on engine or number of miles on vehicle prior to testing.

(7) Description of any preparation, maintenance, modification or repair on test engines or vehicles.

(8) Emission test results for each valid test. If the above information is available on Automatic Data Processing (ADP) equipment, the manufacturer shall submit the information on an ADP storage device such as magnetic tape, magnetic disc, punched cards, etc. EPA shall return ADP equipment submitted by the manufacturer or, upon a request by the manufacturer, furnish the necessary ADP storage devices. Information submitted once need not be submitted again if there are no subsequent changes.

(d) Pursuant to a request made by the Administrator, the manufacturer shall submit to him the following information with regard to engine or vehicle production:

(1) Number of engines or vehicles, by configuration and assembly plant, scheduled for production for the time period designated in the request.

(2) Number of engines or vehicles, by configuration and assembly plant, produced during the time period designated in the request which are complete for introduction into commerce.

(e) Nothing in this section limits the Administrator's discretion in requiring the manufacturer to retain additional records or submit information not specifically required by this section.

(f) The manufacturer shall address all reports, submissions, notifications, and requests for approvals made under this subpart to:

Director, Mobile Source Enforcement Division, U.S. Environmental Protection Agency, EN–340, 401 M Street S.W., Washington, D.C. 20460.

§ 86.1006–83 Entry and access.

(a) To allow the Administrator to determine whether a manufacturer is complying with the provisions of this subpart and a test order issued thereunder, EPA Enforcement Officers are authorized to enter during operating hours and upon presentation of credentials any of the following:

(1) Any facility where any engine or vehicle to be introduced into commerce or any emission related component is manufactured, assembled, or stored;

(2) Any facility where any tests conducted pursuant to a test order or any procedures or activities connected with these tests are or were performed;

(3) Any facility where any engine or vehicle which is being tested, was tested, or will be tested is present; and

(4) Any facility where any record or other document relating to any of the above is located.

(b) Upon admission to any facility referred to in subsection (a) of this section, EPA Enforcement Officers are authorized to perform the following inspection-related activities:

(1) To inspect and monitor any aspects of engine or vehicle manufacture, assembly, storage, testing and other procedures, and the facilities in which these procedures are conducted;

(2) To inspect and monitor any aspect of engine or vehicle test procedures or activities, including, but not limited to, monitoring engine or vehicle selection, preparation, service or mileage accumulation, preconditioning, emission test cycles, and maintenance; and to verify calibration of test equipment;

(3) To inspect and make copies of any records or documents related to the assembly, storage, selection and testing of an engine or vehicle in compliance with a test order; and

(4) To inspect and photograph any part or aspect of any engine or vehicle and any component used in the assembly thereof that is reasonably related to the purpose of the entry.

(c) EPA Enforcement Officers are authorized to obtain reasonable assistance without cost from those in charge of a facility to help them perform any function listed in this subpart and are authorized to request the recipient of a test order to make arrangements with those in charge of a facility operated for its benefit to furnish reasonable assistance without cost of EPA whether or not the recipient controls the facility.

(d) EPA Enforcement Officers are authorized to seek a warrant or court order authorizing the EPA Enforcement Officers to conduct activities related to entry and access as authorized in this section, as appropriate, to execute the functions specified in this section. EPA Enforcement Officers may proceed *ex parte* to obtain a warrant whether or not the Enforcement Officers first attempted to seek permission of the recipient of the test order or the party in charge of the facilities in question to conduct activities related to entry and access as authorized in this section.

(e) A recipient of a test order shall permit EPA Enforcement Officers who present a warrant or court order as described in paragraph (d) of this section to conduct activities related to entry and access as authorized in this section and as described in the warrant or court order. The recipient shall cause those in charge of its facility or a facility operated for its benefit to permit EPA Enforcement Officers to conduct activities related to entry and access as authorized in this section pursuant to a warrant or court order whether or not the recipient controls the facility. In the absence of such a warrant or court order, EPA Enforcement Officers may conduct activities related to entry and access as authorized in this section only upon the consent of the recipient of the test order or the party in charge of the facilities in question.

(f) It is not a violation of this Part or the Clean Air Act for any person to refuse to permit EPA Enforcement Officers to conduct activities related to entry and access as authorized in this section without a warrant or court order.

(g) A manufacturer is responsible for locating its foreign testing and manufacturing facilities in jurisdictions in which local foreign law does not prohibit EPA Enforcement Officers from conducting the entry and access activities specified in this section. EPA will not attempt to make any inspections which it has been informed that local foreign law prohibits.

(h) For purposes of this section, the following definitions are applicable:

(1) "Presentation of Credentials" means display of the document designating a person as an EPA Enforcement Officer.

(2) Where engine or vehicle storage areas or facilities are concerned, "operating hours" means all times during which personnel other than custodial personnel are at work in the vicinity of the area or facility and have access to it.

(3) Where facilities or areas other than those covered by paragraph (h)(2) of this section are concerned, "operating hours" means all times during which an assembly line is in operation, engine or vehicle assembly is taking place, testing, repair, service accumulation, preparation or compilation of records is taking place, or any other procedure or activity related to engine or vehicle manufacture, assembly or testing is being carried out in a facility.

(4) "Reasonable assistance" includes, but is not limited to, clerical, copying, interpreting and translating services, and the making available on an EPA Enforcement Officer's request of personnel of the facility being inspected during their working hours to inform the EPA Enforcement Officer of how the facility operates and to answer his or her questions. Any employee whom an EPA Enforcement Officer requests the manufacturer to cause to appear for questioning will be entitled to be accompanied, represented and advised by counsel.

§ 86.1007–83 Sample selection.

(a) Engines or vehicles comprising a test sample which are required to be tested, pursuant to a test order issued in accordance with this subpart, will be selected at the location and in the manner specified in the test order. If a manufacturer determines that the test engines or vehicles cannot be selected in the manner specified in the test order, an alternative selection procedure may be employed: *Provided,* that the manufacturer requests approval of the alternative procedure in advance of the start of test sample selection and that the Administrator approves the procedure.

(b) The manufacturer shall have assembled the test engines or vehicles of the configuration selected for testing using its normal mass production processes for engines or vehicles to be distributed into commerce. In the case of heavy-duty engines, if the test engines are selected at a location where they do not have their operational and emission control system installed, the test order will specify the manner and location for selection of components to complete assembly of the engines and the manner in which assembly is to be completed.

(c) No quality control, testing, or assembly procedures will be used on the completed test engine or vehicle or any portion thereof, including parts and subassemblies, that will not be used during the production and assembly of all other engines or vehicles of that configuration: *Except,* That the Administrator may approve a deviation in the normal assembly procedures for heavy-duty engines pursuant to paragraph (b) of this section.

(d) The test order may specify that EPA Enforcement Officers, rather than the manufacturer, will select the test engines or vehicles according to the method specified in the test order.

(e) The test order will specify the order in which test results are to be used in applying the sampling plan.

(f) The manufacturer shall keep on hand all untested engines or vehicles, if any, comprising the test sample until such time as a pass or fail decision is reached in accordance with § 86.1010–83(d) or § 86.1011–83(d) or until such time as the compliance level is determined in accordance with § 86.1011–83(g), whichever is applicable.

§ 86.1008–83 Test procedures.

(a)(1) For heavy-duty engines, the prescribed test procedure is the Federal Test Procedure as described in Subparts N, I, and P of this Part.

(2) For light-duty trucks, the prescribed test procedure is the Federal Test Procedure as described in Subparts B and P of this part. The manufacturer shall not perform the evaporative emission test procedure contained in Subpart B.

(b)(1) The manufacturer shall not adjust, repair, prepare, or modify the

engines or vehicles selected for testing and shall not perform any emission tests on engines or vehicles selected for testing pursuant to the test order unless this adjustment, repair, preparation, modification, and/or tests are documented in the manufacturer's engine or vehicle assembly and inspection procedures and are actually performed or unless these adjustments and/or tests are required or permitted under this subpart or are approved in advance by the Administrator.

(2) For 1983 and later model years the Administrator may adjust or cause to be adjusted any engine parameter which the Administrator has determined to be subject to adjustment for certification, Selective Enforcement Audit and Production Compliance Audit testing in accordance with § 86.083–22(e)(1), to any setting within the physically adjustable range of that parameter, as determined by the Administrator in accordance with § 86.083–22(e)(3)(ii), prior to the performance of any tests. However, if the idle speed parameter is one which the Administrator has determined to be subject to adjustment, the Administrator shall not adjust it to any setting which causes a lower engine idle speed than would have been possible within the physically adjustable range of the idle speed parameter if the manufacturer had accumulated 125 hours of service on the engine or 4,000 miles on the vehicle under paragraph (c) of this section, all other parameters being identically adjusted for the purpose of the comparison. The Administrator, in making or specifying these adjustments, may consider the effect of the deviation from the manufacturer's recommended setting on emissions performance characteristics as well as the likelihood that similar settings will occur on in-use heavy-duty engines or light-duty trucks. In determining likelihood, the Administrator may consider factors such as, but not limited to, the effect of the adjustment on engine or vehicle performance characteristics and surveillance information from similar in-use engines or vehicles.

(c) The manufacturer may accumulate up to 125 hours of service on each selected engine or 4,000 miles on each vehicle prior to performing exhaust emission testing. Service accumulation may be performed in any manner the manufacturer desires.

(1) The manufacturer shall accumulate service at a minimum rate of 16 hours or mileage at a minimum rate of 300 miles during each 24-hour period, unless otherwise provided by the Administrator.

(2) Service or mileage accumulation shall be performed on a sufficient number of test engines or vehicles during each 24-hour period to assure that the number of engines or vehicles tested per day fulfills the requirements of paragraph (g) of this section.

(d) No maintenance shall be performed on test engines or vehicles after selection for testing nor will any test engine or vehicle substitution or replacement be allowed, unless requested of the Administrator by the manufacturer and approved by the Administrator in advance of the performance of any maintenance or engine or vehicle substitution.

(e) The manufacturer shall expeditiously ship test engines or vehicles from the point of selection to the test facility. If the test facility is not located at or in close proximity to the point of selection, the manufacturer shall assure that test engines or vehicles arrive at the test facility within 24 hours of selection: *Except,* That the Administrator may approve more time based upon a request by the manufacturer accompanied by a satisfactory justification.

(f) In the event that an engine or vehicle is incapable of completing the service or mileage accumulation or emission tests because of engine or vehicle malfunction, the manufacturer may request that the Administrator authorize the repair or replacement of the engine or vehicle. Any replacement engines or vehicles will be selected in a manner prescribed in the test order.

(g) Within one working day of receipt of the test order, the manufacturer shall notify the Administrator which test facility will be used to comply with the test order. If no test cells are available at a desired facility, the manufacturer must provide alternate testing capability satisfactory to the Administrator.

(1) Heavy-duty gasoline engine manufacturers with projected annual sales of 30,000 or greater, and heavy-duty diesel engine manufacturers with projected annual sales of 10,000 or greater, as made in their respective Applications for Certification, shall complete emission testing at their testing facility on a minimum of two engines per 24 hour period, including voided tests.

(2) Heavy-duty gasoline engine manufacturers with projected annual sales of less than 30,000, and heavy-duty diesel engine manufacturers with projected annual sales of less than 10,000, as made in their respective Applications for Certification, shall complete emission testing at their testing facility on a minimum of one engine per 24 hour period, including voided tests.

(3) Light-duty truck manufacturers shall complete emission testing on a minimum of four vehicles per 24-hour period, including voided tests.

(4) The Administrator may approve a longer period of time for conducting emission tests based upon a request by a manufacturer accompanied by a satisfactory justification.

(h) The manufacturer shall perform test engine or vehicle selection, shipping, service accumulation, and testing in such a manner as to assure that the audit is performed in an expeditious manner.

(i) The manufacturer may retest any engines or vehicles tested during a Selective Enforcement Audit once a fail decision for the audit has been reached in accordance with § 86.1010–83(d) based on the first test on each engine or vehicle. The manufacturer may test each engine or vehicle a total of three times. The manufacturer shall test each engine or vehicle the same number of times. The manufacturer may accumulate additional service or mileage before conducting a retest, although the total amount of service accumulation on each heavy-duty engine prior to testing shall not exceed 125 hours and the mileage on each light-duty truck shall not exceed 4,000 miles.

§ 86.1009–83 Calculation and reporting of test results.

(a) Initial test results are calculated following the Federal Test Procedure specified in paragraph (a) of § 86.1008–83.

(b) Final test results are calculated by summing the initial test results derived in paragraph (a) of this section for each test engine or vehicle, dividing by the number of tests conducted on the engine or vehicle, and rounding in accordance with ASTM E29–67 to two places to the right of the decimal point.

(c) *Final deteriorated test results.* For the purpose of this paragraph, if a deterioration factor as computed during the certification process is less than one, that deterioration factor is equal to one.

(1) The final deteriorated test results for each heavy-duty engine or light-duty truck tested according to Subpart B, N, or P of this Part are calculated by mulitplying the final test results by the appropriate deterioration factor, derived from the certification process for the engine family-control system combination and model year for the selected configuration to which the test engine belongs.

(2) The final deteriorated test results for each heavy-duty engine tested

according to Subpart I of this Part are calculated by adding the appropriate deterioration factor, derived from the certification process for the engine family-control system combination and model year for the selected configuration to which the test engine belongs, to the final test results.

(3) The final deteriorated test results are rounded to two significant figures in accordance with ASTM E29–67.

(d) Within five working days after completion of testing of all engines or vehicles pursuant to a test order, the manufacturer shall submit to the Administrator a report which includes the following information:

(1) The location and description of the manufacturer's exhaust emission test facilities which were utilized to conduct testing reported pursuant to this section;

(2) The applicable standards against which the engines or vehicles were tested;

(3) Deterioration factors for the engine family to which the selected configuration belongs;

(4) A description of the engine or vehicle and any emission-related component selection method used and the name of the manufacturer's representative in charge of the selection process;

(5) for each test conducted,

(i) Test engine or vehicle description, including:

(A) Configuration and engine family identification,

(B) Year, make and build date,

(C) Engine or vehicle identification number, and

(D) Number of hours of service accumulated on engine or number of miles on vehicle prior to testing;

(ii) Location where service or mileage accumulation was conducted and description of accumulation procedure and schedule;

(iii) Test number, date, initial test results before and after rounding, final test results and final deteriorated test results for all exhaust emission tests, whether valid or invalid, and the reason for invalidation, if applicable;

(iv) A complete description of any modification, repair, preparation, maintenance, and/or testing which was performed on the test engine or vehicle and has not been reported pursuant to any other paragraph of this subpart and will not be performed on all other production engines or vehicles;

(v) Where a replacement engine or vehicle was authorized by the Administrator, the reason for the replacement and the information in (iii) above, if any, for the replacement engine or vehicle; and

(vi) Any other information the Administrator may request relevant to the determination as to whether the new heavy-duty engines or light-duty trucks being manufactured by the manufacturer do in fact conform with the regulations with respect to which the certificate of conformity was issued; and

(6) The following statement and endorsement:

This report is submitted pursuant to section 206 and section 208 of the Clean Air Act. This Selective Enforcement Audit was conducted in complete conformance with all applicable regulations under 40 CFR Part 86 et seq., and the conditions of the test order. All data and information reported herein is, to the best of (Company name)_____ knowledge, true and accurate. I am aware of the penalties associated with violations of the Clean Air Act and the regulations thereunder.

(Authorized Company Representative) _____

§ 86.1010–83 Compliance with acceptable quality level and passing and failing criteria for Selective Enforcement Audits.

(a) The prescribed acceptable quality level is 10 percent.

(b) A failed engine or vehicle is one whose final deteriorated test results pursuant to paragraph 86.1009–83(c), for one or more of the applicable exhaust pollutants, exceed the applicable emission standard or compliance level as prescribed in paragraph (g) of § 86.1011–83, if applicable.

(c) The manufacturer shall test heavy-duty engines or light-duty trucks over 6,000 pounds GVW comprising the test sample until a pass or fail decision is reached for all pollutants, or a fail decision is reached for a pollutant for which no upper limit is established in this part, or a fail decision is reached with respect to the upper limit according to paragraph (f) of this section. The manufacturer shall test light-duty trucks of 6,000 pounds GVW or less comprising the test sample until a pass decision is reached for all pollutants or a fail decision is reached for one pollutant. A pass decision is reached when the cumulative number of failed engines or vehicles, as defined in paragraph (b) of this section, for a pollutant is less than or equal to the pass decision number appropriate to the cumulative number of engines or vehicles tested. A fail decision is reached when the cumulative number of failed engines or vehicles for a pollutant is greater than or equal to the fail decision number appropriate to the cumulative number of engines or vehicles tested. The pass and fail decision numbers associated with the cumulative number of engines or vehicles tested are determined by use of the tables in Appendix X of this part appropriate for the annual projected sales as made by the manufacturer in its Application for Certification. In the Tables in Appendix X, sampling plan "stage" refers to the cumulative number of engines or vehicles tested.

(d) Passing or failing of an SEA audit occurs when the decision is made on the last engine or vehicle required to make a decision under paragraph (c) of this section.

(e) The Administrator may terminate testing earlier than required in paragraph (c) of this section.

(f) If a fail decision is reached in accordance with paragraph (d) of this section, then a determination will also be made based on the test results up to that point whether the configuration fails with respect to the upper limit, if one has been established.

(g) If a manufacturer conducts a follow-up SEA audit pursuant to paragraph (j)(2) or (k)(2) of § 86.1012–83 subsequent to suspension or revocation of a certificate of conformity for the purpose of reinstatement or reissuance of the certificate, the provisions of this section are applicable except that the manufacturer shall use the tables in Appendix XI to make a decision under paragraph (c) of this section.

(h) Whenever a manufacturer conducts an SEA audit pursuant to a test order issued for a configuration whose official certification test results exceeded one or more standards, the provisions of this section are applicable except that the manufacturer shall use the tables in Appendix XI to make a decision under paragraph (c) of this section.

(i) If a manufacturer is issued a test order to conduct an SEA of a configuration which serves as a replacement for a configuration which had its certificate of conformity suspended or revoked for failure of an SEA, the provisions of this section are applicable except that the manufacturer shall use the tables in Appendix XI to make a decision under paragraph (c) of this section.

(j) A manufacturer may request that a Selective Enforcement Audit be conducted on a configuration on which the manufacturer is paying a nonconformance penalty pursuant to § 86.1013–83 in order to demonstrate that the engines or vehicles of the configuration have been brought into compliance with the applicable emission standards. In this case, provisions of this section are applicable except that the manufacturer shall use the tables in Appendix XI to make a decision under paragraph (c) of this section.

§ 86.1011–83 Production Compliance Auditing.

(a)(1) During a model year in which certification above the heavy-duty engine or light-duty truck emission standards for one or more exhaust pollutants is specifically permitted by amendments to this part, a manufacturer may conduct a Production Compliance Audit (PCA) for each configuration which did not pass a Selective Enforcement Audit in accordance with paragraph (d) of § 86.1010–83 with respect to a pollutant for which an upper limit had been established in this part and for which the manufacturer does not intend to make a design change or changes to the engine and/or emission control system as described in the Application for Certification or does not intend to institute a quality control procedure to remedy the nonconformity.

(2) The provisions of this section are not applicable to light-duty trucks rated at 6,000 pounds GVW or less.

(b) Production Compliance Audits are initiated upon a written request from the manufacturer. All applicable conditions in the original SEA test order apply to the PCA. Test results from the SEA audit will be used in establishing a noncompliance level or reaching a fail decision for the PCA audit.

(c) Unless specified as being appropriate only to Selective Enforcement Auditing or to model years in which certification above the emission standards for heavy-duty engines or light-duty trucks is not specifically permitted by regulations, all other sections of this subpart are applicable to Production Compliance Audit testing.

(d) The manufacturer shall test consecutive engines or vehicles comprising the test sample until a fail decision at the upper limit is reached for each pollutant for which an upper limit has been established or the maximum sample size has been tested. A fail decision is reached for a pollutant for which an upper limit has been established when the number of engines or vehicles whose final deteriorated tests results exceed the upper limit for that pollutant is equal to or greater than the fail decision number. The fail decision number and maximum test sample size are determined from the tables in Appendix XII.

(e) A fail decision is reached for a pollutant for which no upper limit has been established when the number of engines or vehicles whose final deteriorated test results exceed the standard for that pollutant is equal to or greater than the fail decision number in Table II of Appendix XII.

(f) The Administrator may terminate testing earlier than required in paragraph (d) of this section.

(g) If the maximum number of engines or vehicles were tested pursuant to paragraph (d) of this section and a fail decision under paragraph (d) was not made for one or more pollutants for which an upper limit has been established, a compliance level is established for each of these pollutants according to the following procedure:

(1) For each pollutant, rank all the final deteriorated test results obtained for that pollutant in order from the lowest to the highest value.

(2)(i) If using code letter A in Appendix XII, the sixteenth lowest test result in the sequence is the compliance level.

(ii) If using code letter B in Appendix XII, the nineteenth lowest test result in the sequence is the compliance level.

(iii) If using code letter C in Appendix XII, the twenty-fourth lowest test result in the sequence is the compliance level.

(iv) If using code letter D in Appendix XII, the twenty-fifth lowest test result in the sequence is the compliance level.

§ 86.1012–83 Suspension and revocation of certificates of conformity.

(a) The certificate of conformity is suspended with respect to any engine or vehicle failing pursuant to paragraph (b) of § 86.1010–83 effective from the time that testing of that engine or vehicle is completed.

(b) During those model years in which heavy-duty engines or light-duty trucks are not permitted by this part to exceed emission standards for one or more pollutants, the Administrator may suspend the certificate of conformity for a configuration which does not pass and SEA, pursuant to paragraph § 86.1010–83(c), based on the first test or all tests conducted on each engine or vehicle or does not pass a PCA, pursuant to paragraph § 86.1011–83(e), with respect to the standards for those pollutants for those engines or vehicles produced at that plant. This suspension will not occur before ten days after failure to pass the audit.

(c) During those model years in which heavy-duty engines or light-duty trucks are permitted by amendments to this part to exceed the emission standards for one more pollutants, the Administrator may suspend the certificate of conformity for a configuration which does not pass an SEA, pursuant to paragraph § 86.1010–83(f), based on the first test or all tests conducted on each engine or vehicle or does not pass a PCA audit, pursuant to paragraph § 86.1011–83(d), with respect to the upper limits for those pollutants for those engines or vehicles produced at that plant. This suspension will not occur before ten days after failure to pass the audit.

(d) If a manufacturer does not elect to conduct a PCA audit for a configuration pursuant to §86.1011–83(a), the Administrator may suspend the certificate of conformity for all engines or vehicles of that configuration produced at the plant where the configuration failed the SEA audit. A suspension for failure to elect a PCA pursuant to § 86.1011–83(a) will not occur before ten days after failure to pass the audit.

(e) If the results of testing pursuant to these regulations indicate that engines or vehicles of a particular configuration produced at one plant of a manufacturer do not conform to the regulations with respect to which the certificate of conformity was issued, the Administrator may suspend the certificate of conformity with respect to that configuration for engines or vehicles manufactured by the manufacturer at all other plants.

(f) The Administrator may suspend the certificate of conformity for all engines or vehicles of a configuration produced at all plants if a manufacturer fails to pay a nonconformance penalty on all engines or vehicles for which a penalty is applicable within the time prescribed in § 86.1013–83(c).

(g) The Administrator shall notify the manufactuer in writing of any suspension or revocation of a certificate of conformity in whole or in part: *Except*, That the certificate is immediately suspended with respect to any failed engines or vehicles as provided for in paragraph (a) of this section.

(h) The Administrator may revoke a certificate of conformity for a configuration when the certificate has been suspended pursuant to paragraph (b), (c) or (e) of this section if the proposed remedy for the nonconformity, as reported by the manufacturer to the Administrator, is one requiring a design change or changes to the engine and/or emission control system as described in the Application for Certification of the affected configuration.

(i) Once a certificate has been suspended for a failed engine or vehicles as provided for in paragraph (a) of this section, the manufacturer shall take the following actions:

(1) Before the certificate is reinstated for that failed engine or vehicle,

(i) Remedy the noncomformity, and

(ii) Demonstrate that the engine or vehicle conforms to the applicable

standards or compliance levels, if established, by retesting the engine or vehicle in accordance with these regulations; and

(2) Submit a written report to the Administrator within five working days after completion of testing which contains a description of the remedy and test results for each engine or vehicle in addition to other information that may be required by this regulation.

(j) Once a certificate for a failed configuration has been suspended pursuant to paragraph (b), (c) or (e) of this section, the manufacturer shall take the following actions before the Administrator will consider reinstating the certificate:

(1) Submit a written report to the Administrator which identifies the reason for the noncompliance of the engines or vehicles, describes the proposed remedy, including a description of any proposed quality control and/or quality assurance measures to be taken by the manufacturer to prevent future occurrences of the problem, and states the date on which the remedies will be implemented; and

(2) Demonstrate that the engine or vehicle configuration for which the certificate of conformity has been suspended does in fact comply with these regulations by testing engines or vehicles selected from normal production runs of that engine or vehicle configuration, at the plant(s) or associated storage facilities specified by the Administrator, in accordance with paragraph § 86.1010–83(g) and the conditions specified in the initial test order; *Except,* That if the manufacturer elects to continue testing individual engines or vehicles after suspension of a certificate, the certificate is reinstated for any engine or vehicle actually determined to be in conformance with the applicable standards through testing in accordance with the applicable test procedures: *Provided,* That the Administrator has not revoked the certificate pursuant to paragraph (g) of this section.

(k) Once the certificate has been revoked for a configuration and the manufacturer desires to continue introduction into commerce of the configuration, the following actions will be taken before the Administrator will consider reissuing the certificate:

(1) If the Administrator determines that the proposed change or changes in engine design may have an effect on emission performance deterioration, he shall notify the manufacturer within five (5) working days after receipt of the report in paragraph (h) of this section, whether subsequent testing under this subpart will be sufficient to evaluate the proposed change or changes or whether additional testing will be required; and

(2) After implementing the change or changes intended to remedy the nonconformity, the manufacturer shall demonstrate that the engine or vehicle configuration for which the certificate of conformity was revoked does in fact conform with these regulations by testing engines or vehicles selected from normal production runs of that engine or vehicle configuration in accordance with paragraph § 86.1010–83(g) and the conditions specified in the initial test order. This testing will be considered by the Administrator to satisfy the testing requirements of § 86.078–32 or § 86.079–33 if the Administrator had so notified the manufacturer. If the subsequent audit results in passing of the audit at the level of the standards, the Administrator shall reissue or amend the certificate, as the case may be, to include that configuration: *Provided,* That the manufacturer has satisfied the testing requirements specified pursuant to paragraph (j)(2) of this section. If the subsequent audit is failed, the revocation remains in effect. Any design change approvals under this subpart are limited to the configuration affected by the test order.

(l) At any time subsequent to an initial suspension of a certificate of conformity for a test engine or vehicle pursuant to paragraph (a) of this section, but not later than fifteen (15) days or such other period as may be allowed by the Administrator after notification of the Administrator's decision to suspend or revoke a certificate of conformity in whole or in part pursuant to paragraph (b), (c), (d), (e) or (h) of this section or establishment of a compliance level in accordance with § 86.1011–83 which exceeds a standard, a manufacturer may request a hearing as to whether the tests have been properly conducted or any sampling methods have been properly applied.

(m) After the Administrator suspends or revokes a certificate of conformity pursuant to this section or notifies a manufacturer of his intent to suspend, revoke or void a certificate of conformity under paragraph § 86.079–30(e), and prior to the commencement of a hearing under § 86.1014–83, if the manufacturer demonstrates to the Administrator's satisfaction that the decision to suspend, revoke or void the certificate was based on erroneous information, the Administrator shall reinstate the certificate.

(n) To permit a manufacturer to avoid storing non-test engines or vehicles when conducting an audit of a configuration subsequent to suspension or revocation of the certificate of conformity for that configuration resulting from failure of an SEA or PCA audit, it may request that the Administrator conditionally reinstate the certificate for that configuration. The Administrator may reinstate the certificate subject to the condition that the manufacturer consents to recall all engines or vehicles of that configuration produced from the time the certificate is conditionally reinstated if the configuration fails the subsequent audit at the level of the standard or upper limits, as applicable, and to remedy any nonconformity at no expense to the owner.

§ 86.1013–83 Nonconformance penalties.

(a) The nonconformance penalty is determined according to the following formula:

$$\left[\left(\frac{\frac{CL_{HC}}{HC_{STD}} + \frac{CL_{CO}}{CO_{STD}} + \frac{CL_{NOx}}{NOx_{STD}}}{3}\right) - 1\right] \times 100 \times MC \times F$$

where

CL_{HC} = compliance level for HC, according to paragraph § 86.1011–83(g).

CL_{CO} = compliance level for CO, according to paragraph § 86.1011–83(g)

CL_{NOx} = compliance level for NOx, according to paragraph § 86.1011–83(g)

HC_{STD} = heavy-duty engine or light-duty truck emission standard, as applicable, for HC for the model year in which CL_{HC} is established.

CO_{STD} = heavy-duty engine or light-duty truck emission standard, as applicable, for CO for the model year in which CL_{CO} is established.

NOx_{STD} = heavy-duty engine emission or light-duty truck standard, as applicable, for NOx for the model year in which CL_{COx} is established.

MC = marginal cost of compliance with emission standards as determined in paragraph (a)(3) of this section.

F = periodic penalty adjustment factor.

= 1.0 for the first model year in which the HC_{STD}, CO_{STD} and/or NOx_{STD} are applicable.

= $1 + [(n - 1) \times 0.25]$ for the n^{th} model year in which the HC_{STD}, CO_{STD} and/or NOx_{STD} are applicable.

(1) The compliance level for a pollutant is equal to the standard for that pollutant in each of the following cases:

(i) No upper limit is established in this part for that pollutant;

(ii) An upper limit has been established in this part for that pollutant

and the compliance level is less than the emission standard for that pollutant; or

(iii) The configuration passed the Selective Enforcement Audit preceeding the Production Complaince Audit with respect to the standard for that pollutant and did not fail the Production Compliance Audit with respect to the standard for that pollutant.

(2) If the compliance level determined pursuant to paragraph § 86.1011–83(g) exceeds the upper limit for the applicable pollutant, the compliance level is equal to the upper limit for purposes of performing the calculation in paragraph (a) of this section.

$$(3)\quad MC = \frac{I.C.}{\left[\left(\frac{HC_{INC}}{HC_{STD}} + \frac{CO_{INC}}{CO_{STD}} + \frac{NOx_{INC}}{NOx_{STD}}\right) \div 3 - 1\right] \times 100}$$

where:

HC_{INC} = hydrocarbon emission standard an increment above HC_{STD}.

CO_{INC} = a carbon monoxide emission standard an increment above CO_{STD}.

NOx_{INC} = an oxides of nitrogen emission standard an increment above NOx_{STD}.

I.C. = IC_{HDE} or IC_{LDT}, as applicable, where

$I.C._{LDT}$ = cost of bringing a gasoline-fueled or diesel light-duty truck over 6,000 pounds GVW which is in compliance with the incremental standards for light-duty trucks into compliance with HC_{STD}, CO_{STD}, and NOx_{STD} for light-duty trucks.

$I.C._{HDE}$ = cost of bringing a heavy-duty gasoline-fueled or diesel engine which is in compliance with the incremental standards for heavy-duty engines into compliance with HC_{STD}, CO_{STD} and NOx_{STD} for heavy-duty engines.

$= C_v + C_{sv} + C_{user}$, where:

C_v = Variable costs of compliance with HC_{STD}, CO_{STD}, and NOx_{STD} (e.g., labor and materials for pollution control equipment and warranty obligations).

C_{sv} = semi-variable costs of compliance (e.g., amortized research and development and retooling costs).

C_{user} = user-borne costs of compliance (e.g., mileage penalty and increased maintenance requirements).

(b) The nonconformance penalty determined in paragraph (a) of this section is assessed against the following engines or vehicles of the noncomplying configuration:

(1) Those engines or vehicles produced at all plants since the beginning of the model year and distributed into commerce, until the time that the noncompliance level(s) is (are) established; and

(2) Those engines or vehicles produced at all plants after the noncompliance level(s) is (are) established and distributed into commerce, until such time, if any, that the configuration is brought into compliance with applicable emission standards as demonstrated by passing an SEA pursuant to § 86.1010–83(j).

(c) The nonconformance penalty or penalties must be paid within 15 days of the end of each calendar quarter (March 31, June 30, September 30, and December 31) for all nonconforming engines or vehicles produced by a manufacturer and distributed into commerce for that quarter. Payment must be made to the United States Treasury and be delivered to:

Director, Mobile Source Enforcement Division (EN–340), U.S. Environmental Protection Agency, 401 M Street S.W., Washington, D.C. 20460.

86.1014–83 Hearings on suspension, revocation and voiding of certificate of conformity.

(a) *Applicability.* The procedures prescribed by this section apply whenever a manufacturer requests a hearing pursuant to § 86.079–30(e)(6)(i), § 86.079–30(e)(7), or § 86.1012–83(1).

(b) *Definitions.* The following definitions are applicable to this section:

(1) "Hearing Clerk" shall mean the Hearing Clerk of the Environmental Protection Agency.

(2) "Manufacturer" means a manufacturer contesting a suspension or revocation order directed at the manufacturer.

(3) "Party" means the Agency and the manufacturer.

(4) "Presiding Officer" means an Administrative Law Judge appointed pursuant to 5 U.S.C. 3105 (see also 5 CFR Part 930 as amended).

(5) "Judicial Officer" means an officer or employee of the Agency appointed as a Judicial Officer by the Administrator pursuant to this section who shall meet the qualifications and perform functions as follows:

(i) Officer—there may be designated for the purposes of this section one or more Judicial Officers. As work requires, there may be a Judicial Officer designated to act for the purposes of a particular case.

(ii) Qualifications—a Judicial Officer may be a permanent or temporary employee of the Agency who performs other duties for the Agency. The Judicial Officer shall not be employed by the Office of Enforcement or have any connection with the preparation or presentation of evidence for a hearing held pursuant to this subpart.

(iii) Functions—the Administrator may consult with Judicial Officer or delegate all or part of his authority to act in a given case under this section to a Judicial Officer: *Provided,* That this delegation does not preclude the Judicial Officer from referring any motion or case to the Administrator when the Judicial Officer determines such referral to be appropriate.

(c) *Request for public hearing.* (1) If the manufacturer disagrees with the Administrator's decision to suspend, revoke or void a certificate or disputes the basis for an automatic suspension pursuant to § 86.1012–83(a), the manufacturer may request a public hearing as described in this section. The manufacturer shall file with the Administrator a request for this hearing not later than fifteen (15) days after the Administrator's notification of his decision to suspend or revoke unless otherwise specified by the Administrator. The manufacturer shall simultaneously serve two copies of this request upon the Director of the Mobile Source Enforcement Division and file two copies with the Hearing Clerk. Failure of the manufacturer to request a hearing within the time provided constitutes a waiver of the right to a hearing. Subsequent to the expiration of the period for requesting a hearing as of right, the Administrator may, in his discretion and for good cause known, grant the manufacturer a hearing to contest the suspension or revocation.

(2) The manufacturer shall include in the request for a public hearing—

(i) A statement as to which engine or vehicle configuration is to be the subject of the hearing;

(ii) A concise statement of the issues to raised by the manufacturer at the hearing: *Provided, however,* that in the case of the hearing requested under § 86.1012–83(1), the hearing is restricted to the following issues:

(A) Whether tests have been properly conducted, specifically, whether the tests were conducted in accordance with applicable regulations under this part and whether test equipment was properly calibrated and functioning; and

(B) Whether sampling plans have been properly applied, specifically, whether sampling procedures specified in Appendix X, XI, or XII, as applicable, were followed and whether there exists a baisis for distinguishing engines or vehicles produced at plants other than the one from which engines or vehicles were selected for testing which would invalidate the Administrator's decision under § 86.1012–83(e) or cause the compliance level to be different at the other plants;

(iii) A statement specifying reasons why the manufacturer believes it will prevail on the merits of each of the issues raised; and

(iv) A summary of the evidence which supports the manufacturer's position on each of the issues raised.

(3) A copy of all requests for public hearings will be kept on file in the Office of the Hearing Clerk and will be made available to the public during Agency business hours.

(d) *Summary decision.* (1) In the case of a hearing requested under § 86.1012–83(1), when it clearly appears from the data and other information contained in the request for a hearing that there is no genuine and substantial question of fact with respect to the issues specified in § 86.1014–83(c)(2)(ii), the Administrator shall enter an order denying the request for a hearing and reaffirming the original decision to suspend or revoke a certificate of conformity, if this decision has been made pursuant to § 86.1012–83(g) at any time prior to the decision to deny the request for a hearing.

(2) In the case of a hearing requested under § 86.079–30(e)(6)(i), to challenge a proposed suspension of a certificate of conformity for the reasons specified in § 86.079–30(e)(1)(i) or (e)(1)(ii), when it clearly appears from the data and other information contained in the request for a hearing that there is no genuine and substantial question of fact with respect to the issue of whether the refusal to comply with the provisions of a test order or any other requirement of § 86.1003–83 was caused by conditions and circumstances outside the control of the manufacturer, the Administrator shall enter an order denying the request for a hearing and suspending the certificate of conformity.

(3) Any order issued under paragraphs (d)(1) or (d)(2) of this section has the force and effect of a final decision of the Administrator, as issued, pursuant to paragraph (w)(4) of this section.

(4) If the Administrator determines that a genuine and substantial question of fact does exist with respect to any of the issues referred to in paragraphs (d)(1) and (d)(2) of this section he shall grant the request for a hearing and publish a notice of public hearing in accordance with paragraph (h) of this section.

(e) *Filing and service.* (1) An original and two copies of all documents or papers required or permitted to be filed pursuant to this section must be filed with the Hearing Clerk. Filing is considered timely if mailed, as determined by the postmark, to the Hearing Clerk within the time allowed by this section. If filing is to be accomplished by mailing, the documents must be sent to the address set forth in the notice of public hearing as described in paragraph (h) of this section.

(2) To the maximum extent possible, testimony will be presented in written form. Copies of written testimony will be served upon all parties as soon as practicable prior to the start of the hearing. A certificate of service will be provided on or accompany each document or paper filed with the Hearing Clerk. documents to be served upon the Director of the Mobile Source Enforcement Division must be sent by registered mail to:

Director, Mobile Source Enforcement Division, U.S. Environmental Protection Agency, EN–340, 401 M Street S.W., Washington, D.C. 20460.

Service by registered mail is complete upon mailing.

(f) *Time.* (1) In computing any period of time prescribed or allowed by this section, except as otherwise provided, the day of the act or event from which the designated period of time begins to run is not included. Saturdays, Sundays, and Federal legal holidays are included in computing the period allowed for the filing of any document or paper, except that when the period expires on a Saturday, Sunday, or Federal legal holiday, the period is extended to include the next following business day.

(2) A prescribed period of time within which a party is required or permitted to do an act is computed from the time of service, except that when service is accomplished by mail, three days will be added to the prescribed period.

(g) *Consolidation.* The Administrator or the Presiding Officer in his discretion may consolidate two or more proceedings to be held under this section for the purpose of resolving one or more issues whenever it appears that consolidation will expedite or simplify consideration of these issues. Consolidation does not affect the right of any party to raise issues that could have been raised if consolidation had not occurred.

(h) *Notice of public hearings.* Notice of a public hearing under this section is given by publication in the **Federal Register** and by such other means as the Administrator finds appropriate to provide notice to the public. To the extent possible hearings under this section will be scheduled to commence within fourteen (14) days of receipt of the application in paragraph (c) of this section.

(i) *Amicus curiae.* Persons not parties to the proceeding wishing to file briefs may do so by leave of the Presiding Officer granted on motion. A motion for leave must identify the interest of the applicant and state the reasons why the proposed amicus brief is desirable.

(j) *Presiding Officer.* The Presiding Officer shall conduct a fair and impartial hearing in accordance with 5 U.S.C. sections 554, 556 and 557 and take all necessary action to avoid delay in the disposition of the proceedings and to maintain order. He shall have all power consistent with Agency rule and with the Administrative Procedure Act necessary to this end, including the power—(1) To administer oaths and affirmations;

(2) To rule upon offers of proof and exclude irrelevant or repetitious material;

(3) To regulate the course of the hearings and the conduct of the parties and their counsel therein;

(4) To hold conferences for simplification of the issues or any other proper purpose;

(5) To consider and rule upon all procedural and other motions appropriate to these proceedings;

(6) To require the submission of direct testimony in written form with or without affidavit whenever, in his opinion, oral testimony is not necessary for full and true disclosure of the facts;

(7) To enforce agreements and orders requiring access as authorized by law;

(8) To require the filing of briefs on any matter on which he is required to rule;

(9) To require any party or any witness, during the course of the hearing, to state his position on any issue;

(10) To take or cause depositions to be taken whenever the ends of justice would be served thereby;

(11) To make decisions or recommend decisions to resolve the disputed issues on the record of the hearing; and

(12) To issue, upon good cause shown, protective orders as described in paragraph (n) of this section.

(k) *Conferences.* (1) The Presiding Officer may hold conferences prior to or during any hearing. The Presiding Office shall direct the Hearing Clerk to notify all parties of the time and location of any conference. At the discretion of the Presiding Officer, persons other than parties may attend. At a conference the Presiding Officer may—(i) Obtain stipulations and admissions, receive requests, order depositions to be taken, identify disputed issues of fact and law, and require or allow the submission of written testimony from any witness or party;

(ii) Set a hearing schedule for as many of the following as he considers necessary:

(A) Oral and written statements;

(B) Submission of written direct testimony as required or authorized by the Presiding Officer;

(C) Oral direct and cross-examination of a witness where necessary as prescribed in paragraph (p) of this section; and

(D) Oral argument, if appropriate;

(iii) Identify matters of which official notice may be taken;

(iv) Consider limitation of the number of expert and other witnesses;

(v) Consider the procedure to be followed at the hearing; and

(vi) Consider any other matter that may expedite the hearing or aid in the disposition of the issue.

(2) The Presiding Officer shall summarize in writing the results of any conference, including all stipulations, if not transcribed, and shall make the summary part of the record.

(l) *Primary discovery (exchange of witness lists and documents).* (1) At a prehearing conference or within some reasonable time set by the Presiding Officer prior to the hearing, each party shall make available to the other parties the names of the expert and other witnesses the party expects to call, together with a brief summary of their expected testimony and a list of all documents and exhibits which the party expects to introduce into evidence. Thereafter, witnesses, documents, or exhibits may be added and summaries of expected testimony amended upon motion by a party.

(2) The Presiding Officer, may, upon motion by a party or other person, and for good cause shown, by order—(i) Restrict or defer disclosure by a party of the name of a witness or a narrative summary of the expected testimony of a witness; and

(ii) Prescribe other appropriate measures to protect a witness.

(3) Any party affected by an action in paragraph (l)(2) of this section shall have an adequate opportunity, once he learns the name of a witness and obtains the narrative summary of his expected testimony, to prepare for the presentation of his case.

(m) *Other discovery.* (1) Except as provided by paragraph (1) of this section, further discovery, under this paragraph, is permitted only upon determination by the Presiding Officer—(i) That this discovery will not in any way unreasonably delay the proceeding;

(ii) That the information to be obtained is not obtainable voluntarily; and

(iii) That the information has significant probative value. The Presiding Officer shall be guided by the procedures set forth in the Federal Rules of Civil Procedure, where practicable, and the precedents thereunder, except that no discovery will be undertaken except upon order of the Presiding Officer or upon agreement of the parties.

(2) The Presiding Officer shall order depositions upon oral questions only upon a showing of good cause and upon a finding that—(i) The information sought cannot be obtained by alternative methods; or

(ii) There is a substantial reason to believe that relevant and probative evidence may otherwise not be preserved for presentation by a witness at the hearing.

(3) Any party to the proceeding desiring an order of discovery shall make a motion or motions therefor. The motion must include—(i) The circumstances warranting the taking of the discovery;

(ii) The nature of the information expected to be discovered; and

(iii) The proposed time and place where it will be taken. If the Presiding Officer determines the motion should be granted, he shall issue an order for the taking of the discovery together with the conditions and terms thereof.

(4) Failure to comply with an order issued pursuant to this paragraph may lead to the inference that the information to be discovered would be adverse to the person or party from whom the information was sought.

(n) *Protective orders, in camera proceedings.* (1) Upon motion by a part or by the person from whom discovery is sought, and upon a showing by the movant that the disclosure of the information to be discovered, or a particular part thereof (other than emission data), would result in methods or processes entitled to protection as trade secrets of the person being divulged, the Presiding Officer may enter a protective order with respect to this material. Any protective order will contain terms governing the treatment of the information which are appropriate under the circumstances to prevent disclosure outside the hearing: *Provided,* That the order states that the material will be filed separately from other evidence and exhibits in the hearing. Disclosure is limited to parties to the hearing, their counsel and relevant technical consultants, and authorized representatives of the United States concerned with carrying out the Act. Except in the case of the government, disclosure may be limited to counsel for parties who shall not disclose such information to the parties themselves. Except in the case of the government, disclosure to a party or his counsel is conditioned on execution of a sworn statement that no disclosure of the information will be made to persons not entitled to receive it under the terms of the protective order. (This provision is not necessary where government employees are concerned because disclosure by them is subject to the terms of 18 U.S.C. 1905.)

(2)(i) A party or person seeking a protective order may be permitted to make all or part of the required showing in camera. A record will be made of the in camera proceedings. If the Presiding Officer enters a protective order following a showing in camera, the record of the showing will be sealed and preserved and made available to the Agency or court in the event of appeal.

(ii) Attendance at any in camera proceeding may be limited to the Presiding Officer, the Agency, and the person or party seeking the protective order.

(3) Any party, subject to the terms and conditions of any protective order issues pursuant to paragraph (n)(1) of this section, desiring for the presentation of his case to make use of any in camera documents or testimony, shall make application to the Presiding Officer by motion setting forth the justification therefor. The Presiding Officer, in granting this motion, shall enter an order protecting the rights of the affected persons and parties and preventing unnecessary disclosure of this information, including the presentation of the information and oral testimony and cross-examination concerning it in executive session, as in his discretion is necessary and practicable.

(4) In the submittal of proposed findings, briefs, or other papers, counsel for all parties shall make a good faith attempt to refrain from disclosing the specific details of in camera documents and testimony. This shall not preclude references in these proposed findings, briefs, or other papers to the documents or testimony, including generalized statements based on their contents. To the extent that counsel considers it necessary to include specific details in their presentations, these details will be incorporated in separate proposed findings, briefs, or other papers marked "confidential", and will become part of the in camera record.

(o) *Motions.* (1) All motions, except those made orally during the course of the hearing, must be in writing and state with particularity the grounds therefor, set forth the relief or order sought, and be filed with the Hearing Clerk and served upon all parties.

(2) Within the time fixed by the Administrator, the judicial officer, or the Presiding Officer, as appropriate, any

party may serve and file an answer to the motion. The movant shall, if requested by the Administrator, the judicial officer, or the Presiding Officer, as appropriate, serve and file reply papers, within the time set by the request.

(3) The Presiding Officer shall rule upon all motions filed or made prior to the filing of his decision or accelerated decision, as appropriate. The Administrator or the judicial officer, as appropriate, shall rule upon all motions filed prior to the appointment of a Presiding Officer and all motions filed after the filing of the decision of the Presiding Officer or accelerated decision. Oral argument of motions will be permitted only if the Presiding Officer, the Administrator or the judicial officer, as appropriate, considers it necessary.

(p) *Evidence.* (1) The official transcripts and exhibits, together with all papers and requests filed in the proceeding, constitute the record. Immaterial or irrelevant parts of an admissible document will be segregated and excluded so far as practicable. Documents or parts thereof subject to a protective order under paragraph (n) of this section will be segregated. Evidence may be received at the hearing even though inadmissible under the rules of evidence applicable to judicial proceedings. The weight to be given evidence will be determined by its reliability and probative value.

(2) The Presiding Officer shall allow the parties to examine and cross-examine a witness to the extent that this examination and cross-examination is necessary for a full and true disclosure of the facts.

(3) Rulings of the Presiding Officer on the admissibility of evidence, the propriety of examination and cross-examination, and other procedural matters will appear in the record.

(4) Parties shall automatically be presumed to have taken exception to an adverse ruling.

(q) *Record.* (1) Hearings will be stenographically reported and transcribed and the original transcripts will be part of the record and the sole official transcript. Copies of the record will be filed with the Hearing Clerk and made available during Agency business hours for public inspection. Any person desiring a copy of the record of the hearing or any part thereof, except as provided in paragraph (n) of this section, shall be entitled to the same upon payment of the cost thereof.

(2) The official transcripts and exhibits, together with all papers and requests filed in the proceeding, constitute the record.

(r) *Proposed findings, conclusions.* (1) Within four (4) days of the close of the reception of evidence, or within such longer time as the Presiding Officer may fix, any party may submit for the consideration of the Presiding Officer proposed findings of fact, conclusions of law, and proposed order, together with reasons therefor and briefs in support thereof. These proposals will be in writing, be served upon all parties, and contain adequate references to the record and authorities relied upon.

(2) The record will show the Presiding Officer's ruling on the proposed findings and conclusions except when his order disposing of the proceeding otherwise informs the parties of the action taken by him thereon.

(s) *Decision of the Presiding Officer.* (1) Unless extended by the Administrator, the Presiding Officer shall issue and file with the Hearing Clerk his decision within fourteen (14) days (or within seven (7) days in the case of a hearing requested under § 86.1012(i)) after the period for filing proposed findings as provided for in paragraph (r) of this section has expired.

(2) The Presiding Officer's decision becomes the decision of the Administrator—(i) When no notice of intention to appeal as described in paragraphs (t) and (u) of this section is filed, ten (10) days after issuance thereof, unless in the interim the Administrator shall have acted to review or stay the effective date of the decision; or

(ii) When a notice of intention to appeal is filed but the appeal is not perfected as required by paragraph (t) or (u) of this section, five (5) days after the period allowed for perfection of an appeal has expired unless within that five (5) day period, the Administrator shall have acted to review or stay the effective date of the decision.

(3) The Presiding Officer's decision must include a statement of findings and conclusions, as well as the reasons or basis therefor, upon all the material issues of fact or law presented on the record and an appropriate rule or order. The decision must be supported by substantial evidence and based upon a consideration of the whole record.

(4) At any time prior to the issuance of his decision, the Presiding Officer may reopen the proceeding for the reception of further evidence. Except for the correction of clerical errors, the jurisdiction of the Presiding Officer is terminated upon the issuance of his decision.

(t) *Appeal from the decision of the Presiding Officer.* (1) Any party to a proceeding may appeal the Presiding Officer's decision to the Administrator: *Provided,* That within ten (10) days after issuance of the Presiding Officer's decision the party files a notice of intention to appeal and an appeal brief within twenty (20) days of the decision.

(2) When an appeal is taken from the decision of the Presiding Officer, any party may file a brief with respect to the appeal. The party shall file the brief within fifteen (15) days of the date of the filing of the appellant's brief.

(3) Any brief filed pursuant to this paragraph will contain, in the order indicated, the following:

(i) A subject index of the matter in the brief, with page references, and a table of cases (alphabetically arranged), textbooks, statutes, and other material cited, with page references thereto;

(ii) A specification of the issues intended to be urged; provided, however, that in the case of a hearing requested under § 86.1012–83(1), the brief will be restricted to the issues specified in paragraph (c)(2)(ii) of this section;

(iii) The argument presenting clearly the points of fact and law relied upon in support of the position taken on each issue, with specific page references to the record and the legal or other material relied upon; and

(iv) A proposed order for the Administrator's consideration if different from the order contained in the Presiding Officer's decision.

(4) No brief in excess of 40 pages will be filed without leave of the Administrator.

(5) The Administrator may allow oral argument.

(u) *Summary appeal.* (1) In the case of a hearing requested under § 86.1012–83(1), any appeal taken from the decision of the Presiding Officer will be conducted under this sub-section.

(2) Any party to the proceeding may appeal the Presiding Officer's decision to the Administrator by filing a notice of appeal within ten (10) days.

(3) The notice of appeal must be in the form of a brief and conform to the requirements of paragraph (t)(3) of this section.

(4) Within ten (10) days after a notice of appeal from the decision of the Presiding Officer is filed under this paragraph, any party may file a brief with respect to that appeal.

(5) No brief in excess of fifteen (15) pages will be filed without leave of the Administrator.

(v) *Review of the Presiding Officer's decision in the absence of appeal.* (1) If,

after the expiration of the period for taking appeal as provided for by paragraphs (t) or (u) of this section, no notice of intention to appeal the decision of the Presiding Officer has been filed, or if filed, not perfected, the Hearing Clerk shall so notify the Administrator.

(2) The Administrator, upon receipt of notice from the Hearing Clerk that no notice of intention to appeal has been filed, or if filed, not perfected pursuant to paragraphs (t) or (u) of this section, may, on his own motion, within the time limits specified in paragraph (s)(2) of this section, review the decision of the Presiding Officer. Notice of the intention of the Administrator to review the decision of the Presiding Officer will be given to all parties and will set forth the scope of the review and the issues to be considered and will make provision for filing of briefs.

(w) *Decision of appeal or review.* (1) Upon appeal from or review of the Presiding Officer's decision, the Administrator shall consider such parts of the record as are cited or as may be necessary to resolve the issues presented and in addition shall, to the extent necessary or desirable, exercise all the powers which he could have exercised if he had presided at the hearing.

(2) In rendering his decision, the Administrator shall adopt, modify or set aside the findings, conclusions, and order contained in the decision of the Presiding Officer and shall set forth in his decision a statement of the reasons or basis for his action.

(3) In those cases where the Administrator believes that he should have further information or additional views of the parties as to the form and content of the rule or order to be issued, the Administrator, in his discretion, may withhold final action pending the receipt of the additional information or views, or may remand the case to the Presiding Officer.

(4) Any decision rendered under this paragraph which completes disposition of a case constitutes a final decision of the Administrator.

(x) *Reconsideration.* (1) Within twenty (20) days after issuance of the Administrator's decision, any party may file with the Administrator a petition for reconsideration of this decision, setting forth the relief desired and the grounds in support thereof. Any petition filed under this subsection must be confined to new questions raised by the decision or final order and upon which the petitioner had no opportunity to argue before the Presiding Officer or the Administrator: *Provided,* however, that in the case of a hearing requested under § 86.1012–83(1) these questions will be limited to the issues specified in paragraph (c)(2)(ii) of this section.

(2) Any party desiring to oppose this petition shall file an answer thereto within ten (10) days after the filing of the petition. The filing of a petition for reconsideration does not operate to stay the effective date of the decision or order or to toll the running of any statutory time period affecting the decision or order unless specifically so ordered by the Administrator.

(y) *Accelerated decision, dismissal.* (1) The Presiding Officer, upon motion of any party or sua sponte, may at any time render an accelerated decision in favor of the Agency or the manufacturer as to all or any part of the proceeding, without further hearing or upon limited additional evidence such as affidavits which he may require, or dismiss any party with prejudice, for any of the following reasons:

(i) Failure to state a claim upon which relief can be granted, or direct or collateral estoppel;

(ii) The lack of any genuine issue of material fact, causing a party to be entitled to judgment as a matter of law; or

(iii) Such other reasons as are just, including specifically failure to obey a procedural order of the Presiding Officer.

(2) If, under this sub-section, an accelerated decision is issued as to all the issues and claims joined in the proceeding, the decision will be treated for the purposes of these procedures as the decision of the Presiding Officer as provided in paragraph (s) of this section.

(3) If, under this sub-section, judgment is rendered on less than all issues or claims in the proceeding, the Presiding Officer shall determine what material facts exist without substantial controversy and what material facts are actually and in good faith controverted. He shall thereupon issue an order specifying the facts which appear without substantial controversy, and the issues and claims upon which the hearing will proceed.

(z) *Conclusion of hearing.* (1) If, after the expiration of the period for taking an appeal as provided for by paragraphs (t) and (u) of this section, no appeal has been taken from the Presiding Officer's decision, and after the expiration of the period for review by the Administrator on his own motion as provided for by paragraph (v) of this section, the Administrator does not move to review the decision, the hearing is considered ended at the expiration of all periods allowed for the appeal and review.

(2) If an appeal of the Presiding Officer's decision is taken pursuant to paragraphs (t) and (u) of this section, or if, in the absence of this appeal, the Administrator moves to review the decision of the Presiding Officer pursuant to paragraph (v) of this section, the hearing is considered ended upon the rendering of a final decision by the Administrator.

(aa) *Judicial review.* (1) The Administrator shall designate the General Counsel, Environmental Protection Agency as the officer upon whom copy of any petition for judicial review must be served. This officer shall be responsible for filing in the court the record on which the order of the Administrator is based.

(2) Before forwarding the record to the court, the Agency shall advise the petitioner of costs of preparing it and as soon as payment to cover fees is made, shall forward the record to the court.

Appendix X.—*Sampling Plans for Initial Selective Enforcement Auditing of Heavy-Duty Engines and Light-Duty Trucks*

Table 1.—*Sampling Plan Code Letter*

Annual sales	Code letter
50–99	A
100–199	B
200–399	C
400 or greater	D

Table 2.—*Sample Plan for Code Letter "A" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	3
4	(1)	3
5	(1)	3
6	(1)	3
7	0	3
8	0	4
9	0	4
10	0	4
11	1	4
12	1	4
13	1	5
14	1	5
15	1	5
16	2	5
17	2	5
18	2	5
19	2	6
20	2	6
21	3	6
22	3	6
23	3	6
24	3	6
25	4	6
26	4	7
27	4	7
28	4	7
29	4	7
30	4	7

(1) Test sample passing not permitted at this stage
(2) Test sample failure not permitted at this stage.

Table 3.—*Sample Plan for Code Letter "B" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	3
4	(1)	3
5	(1)	3
6	(1)	3
7	0	4
8	0	4
9	0	4
10	0	4
11	0	4
12	1	5
13	1	5
14	1	5
15	1	5
16	1	5
17	2	6
18	2	6
19	2	6
20	2	6
21	3	6
22	3	7
23	3	7
24	3	7
25	3	7
26	4	7
27	4	7
28	4	8
29	4	8
30	4	8
31	5	8
32	5	8
33	5	9
34	5	9
35	6	9
36	6	9
37	6	9
38	6	9
39	6	9
40	6	9

[1] Test sample passing not permitted at this stage.
[2] Test sample failure not permitted at this stage.

Table 4.—*Sample Plan for Code Letter "C" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	3
4	(1)	3
5	(1)	3
6	(1)	4
7	0	4
8	0	4
9	0	4
10	0	4
11	0	5
12	1	5
13	1	5
14	1	5
15	1	5
16	1	6
17	2	6
18	2	6
19	2	6
20	2	6
21	3	7
22	3	7
23	3	7
24	3	7
25	3	7
26	4	8
27	4	8
28	4	8
29	4	8
30	4	8
31	5	8
32	5	8
33	5	9
34	5	9
35	6	9
36	6	10
37	6	10
38	6	10
39	6	10

Table 4.—*Sample Plan for Code Letter "C" Sample Inspection Criteria*—Continued

Stage	Pass No.	Fail No.
40	6	10
41	7	10
42	7	11
43	7	11
44	7	11
45	8	11
46	8	11
47	8	11
48	8	11
49	8	11
50	10	11

[1] Test sample passing not permitted at this stage.
[2] Test sample failure not permitted at this stage.

Table 5. —*Sample Plane for Code Letter "D" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	3
4	(1)	3
5	(1)	3
6	(1)	4
7	0	4
8	0	4
9	0	4
10	0	4
11	0	5
12	1	5
13	1	5
14	1	5
15	1	5
16	1	6
17	2	6
18	2	6
19	2	6
20	2	6
21	2	7
22	3	7
23	3	7
24	3	7
25	3	7
26	3	8
27	4	8
28	4	8
29	4	8
30	4	8
31	4	8
32	5	8
33	5	8
34	5	9
35	5	9
36	6	10
37	6	10
38	6	10
39	6	10
40	6	10
41	7	11
42	7	11
43	7	11
44	7	11
45	7	12
46	8	12
47	8	12
48	8	12
49	8	12
50	8	13
51	9	13
52	9	13
53	9	13
54	9	13
55	9	13
56	10	13
57	10	13
58	10	13
59	10	13
60	12	13

[1] Test sample passing not permitted at this stage.
[2] Test sample failure not permitted at this stage.

Appendix XI.—*Sampling Plans for Follow-Up Selective Enforcement Auditing of Heavy-Duty Engines and Light-Duty Trucks*

Table 1.—*Sampling Plan Code Letter*

Population size	Code letter
50–99	A
100–199	B
200–299	C
300–499	D
500–699	E
700 or greater	F

Table 2.—*Sample Plan for Code Letter "A" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	3
4	(1)	3
5	(1)	3
6	(1)	4
7	(1)	4
8	(1)	4
9	(1)	4
10	(1)	4
11	0	4
12	0	4
13	0	5
14	0	5
15	0	5
16	1	5
17	1	5
18	1	5
19	1	5
20	1	5
21	2	6
22	2	6
23	2	6
24	2	6
25	2	6
26	2	6
27	3	6
28	3	6
29	3	6
30	5	6

[1] Test sample passing not permitted at this stage.
[2] Test sample failure not permitted at this stage.

Table 3.—*Sample Plan for Code Letter "B" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	3
4	(1)	3
5	(1)	4
6	(1)	4
7	(1)	4
8	(1)	4
9	(1)	4
10	(1)	5
11	(1)	5
12	0	5
13	0	5
14	0	5
15	0	5
16	0	5
17	1	6
18	1	6
19	1	6
20	1	6
21	1	6
22	1	6
23	2	6
24	2	7
25	2	7
26	2	7
27	2	7
28	3	7
29	3	7

Table 3.—*Sample Plan for Code Letter "B" Sample Inspection Criteria*—Continued

Stage	Pass No.	Fail No.
30	3	5
31	3	5
32	3	5
33	3	5
34	4	5
35	4	5
36	4	6
37	4	6
38	4	6
39	5	6
40	7	8

[1] Test sample passing not permitted at this stage.
[2] Test sample failure not permitted at this stage.

Table 4.—*Sample Plan for Code Letter "C" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	(2)
4	(1)	4
5	(1)	4
6	(2)	4
7	(1)	4
8	(1)	4
9	(1)	4
10	(1)	5
11	(1)	5
12	0	5
13	0	5
14	0	5
15	0	5
16	0	6
17	0	6
18	1	6
19	1	6
20	1	6
21	1	6
22	1	7
23	1	7
24	2	7
25	2	7
26	2	7
27	2	7
28	3	7
29	3	8
30	3	8
31	3	8
32	3	8
33	3	8
34	3	9
35	4	9
36	4	9
37	4	9
38	4	9
39	4	9
40	4	9
41	5	9
42	5	9
43	5	9
44	5	9
45	5	9
46	6	9
47	6	9
48	6	9
49	6	9
50	8	9

[1] Test sample passing not permitted at this stage.
[2] Test sample failure not permitted at this stage.

Table 5.—*Sample Plan for Code Letter "D" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	(2)
4	(1)	4
5	(1)	4
6	(1)	4
7	(1)	4

Table 5.—*Sample Plan for Code Letter "D" Sample Inspection Criteria*—Continued

Stage	Pass No.	Fail No.
8	(1)	4
9	(1)	5
10	(1)	5
11	(1)	5
12	(1)	5
13	0	5
14	0	5
15	0	5
16	0	6
17	0	6
18	1	6
19	1	6
20	1	6
21	1	6
22	1	7
23	1	7
24	2	7
25	2	7
26	2	7
27	2	7
28	2	8
29	3	8
30	3	8
31	3	8
32	3	8
33	3	8
34	3	9
35	3	9
36	4	9
37	4	9
38	4	9
39	4	9
40	4	9
41	4	10
42	5	10
43	5	10
44	5	10
45	5	10
46	5	10
47	5	11
48	6	11
49	6	11
50	6	11
51	6	11
52	6	11
53	7	11
54	7	11
55	7	11
56	7	11
57	7	11
58	7	11
59	10	11
60	10	11

[1] Test sample passing not permitted at this stage.
[2] Test sample failure not permitted at this stage.

Table 6.—*Sample Plan for Code Letter "E" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	(2)
4	(1)	4
5	(1)	4
6	(1)	4
7	(1)	4
8	(1)	4
9	(1)	4
10	(1)	4
11	(1)	4
12	(1)	4
13	0	5
14	0	5
15	0	6
16	0	6
17	0	6
18	0	6
19	1	6
20	1	6
21	1	7
22	1	7
23	1	7
24	2	7
25	2	7
26	2	7

Table 6.—*Sample Plan for Code Letter "E" Sample Inspection Criteria*—Continued

Stage	Pass No.	Fail No.
27	2	7
28	2	8
29	2	8
30	3	8
31	3	8
32	3	8
33	3	8
34	3	9
35	3	9
36	4	9
37	4	9
38	4	9
39	4	9
40	4	10
41	4	10
42	5	10
43	5	10
44	5	10
45	5	10
46	5	11
47	5	11
48	6	11
49	6	11
50	6	11
51	6	11
52	6	12
53	6	12
54	7	12
55	7	12
56	7	12
57	7	12
58	7	12
59	7	12
60	8	12
61	8	12
62	8	12
63	8	12
64	8	12
65	8	12
66	9	12
67	9	12
68	9	12
69	9	12
70	11	12

[1] Test sample passing not permitted at this stage.
[2] Test sample failure not permitted at this stage.

Table 7.—*Sample Plan for Code Letter "F" Sample Inspection Criteria*

Stage	Pass No.	Fail No.
1	(1)	(2)
2	(1)	(2)
3	(1)	(2)
4	(1)	4
5	(1)	4
6	(1)	4
7	(1)	4
8	(1)	4
9	(1)	5
10	(1)	5
11	(1)	5
12	(1)	5
13	0	5
14	0	5
15	0	6
16	0	6
17	0	6
18	0	6
19	1	6
20	1	6
21	1	7
22	1	7
23	1	7
24	1	7
25	2	7
26	2	7
27	2	8
28	2	8
29	2	8
30	2	8
31	3	8
32	3	8
33	3	9
34	5	9
35	3	9

Table 7.—*Sample Plan for Code Letter "F" Sample Inspection Criteria*—Continued

Stage	Pass No.	Fail No.
36	3	9
37	4	9
38	4	9
39	4	10
40	4	10
41	4	10
42	4	10
43	5	10
44	5	10
45	5	11
46	5	11
47	5	11
48	5	11
49	6	11
50	6	11
51	6	12
52	6	12
53	6	12
54	6	12
55	7	12
56	7	12
57	7	13
58	7	13
59	7	13
60	7	13
61	8	13
62	8	13
63	8	14
64	8	14
65	8	14
66	8	14
67	9	14
68	9	14
69	9	14
70	9	14
71	9	14
72	9	14
73	10	14
74	10	14
75	10	14
76	10	14
77	10	14
78	10	14
79	11	14
80	13	14

[1] Test sample passing not permitted at this stage.
[2] Test sample failure not permitted at this stage.

Appendix XII.—*Sampling Plans for Production Compliance Auditing of Heavy-Duty Engines and Light-Duty Trucks*

Table 1.—*Sampling Plan Code Letter*

Annual sales	Code letter
50–99	A
100–399	B
400–599	C
600 or greater	D

Table 2.—*Test Sample Passing and Failure Criteria; Maximum Size*

Code letter	Fail No. with respect to upper limits*	Maximum test sample size
A	4	17
B	5	21
C	6	25
D	6	27

*Fail Number with respect to Standard for those pollutants for which no upper limit has been established.

16. A new Subpart P of Part 86 is proposed to read:

Note.—This proposed subpart is concerned only with regulations for light-duty trucks. EPA has previously proposed this subpart for heavy-duty engines in an independent Notice of Proposed Rulemaking.[1] However, for the purposes of the present proposed rulemaking, references to heavy-duty engines may be disregarded.

Subpart P—Emission Regulations for New Gasoline-Fueled and Diesel Heavy-Duty Engines and Vehicles and New Light-Duty Trucks; Idle Test Procedures

Sec.
86.1501–83 Scope; applicability.
86.1502–83 Definitions.
86.1503–83 Abbreviations.
86.1504–83 Section numbering; construction.
86.1505–83 Introduction; structure of subpart.
86.1506–83 Equipment required and specifications; overview.
86.1507–83 [Reserved]
86.1508–83 [Reserved]
86.1509–83 Exhaust gas sampling system.
86.1510–83 [Reserved]
86.1511–83 Exhaust gas analysis system.
86.1512–83 [Reserved]
86.1513–83 Fuel specifications.
86.1514–83 Analytical gases.
86.1515–83 [Reserved]
86.1516–83 Calibration; frequency and overview.
86.1517–83 [Reserved]
86.1518–83 [Reserved]
86.1519–83 CVS calibration.
86.1520–83 [Reserved]
86.1521–83 Hydrocarbon analyzer calibration.
86.1522–83 Carbon monoxide analyzer calibration.
86.1523–83 [Reserved]
86.1524–83 Carbon dioxide analyzer calibration.
86.1525–83 [Reserved]
86.1526–83 Calibration of other equipment.
86.1527–83 Idle test procedure; overview.
86.1528–83 [Reserved]
86.1529–83 [Reserved]
86.1530–83 Test sequence; general requirements.
86.1531–83—86.1536–83 [Reserved]
86.1537–83 Idle test run.
86.1538–83 [Reserved]
86.1539–83 [Reserved]
86.1540–83 Idle exhaust sample analysis.
86.1541–83 [Reserved]
86.1542–83 Information required.
86.1543–83 [Reserved]
86.1544–83 Calculations; idle exhaust emissions.

Authority: Section 202, 206, 208, and 301(a) of the Clean Air Act as amended (42 U.S.C. 7521, 7525, 7542 and 7601(a)).

Subpart P—Emission Regulations for New Gasoline-Fueled and Diesel Heavy-Duty Engines and Vehicles and New Light-Duty Trucks; Idle Test Procedures

§ 86.1501–83 Scope; applicability.

This subpart contains gaseous emission idle test procedures for heavy-duty gasoline-fueled engines and vehicles, heavy-duty diesel engines and vehicles, and light-duty trucks. It applies to 1983 and later model years.

[1] 44 FR 9464, February 13, 1979.

§ 86.1502–83 Definitions.

The definitions in § 86.083–2 apply to this subpart.

§ 86.1503–83 Abbreviations.

The abbreviations in § 86.083–3 apply to this subpart.

§ 86.1504–83 Section numbering; construction.

(a) The model year of initial applicability is indicated by the section number. The two digits following the hyphen designate the first model year for which a section is effective. A section remains effective until superseded.

Example: Section § 86.1511–83 applies to the 1983 and subsequent model years until superseded. If a section § 86.1511–85 is promulgated, it would take effect beginning with the 1985 model year; § 86.1511–83 would apply to model years 1983 and 1984.

(b) A section reference without a model year suffix refers to the section applicable for the appropriate model year.

(c) Unless indicated, all provisions in this subpart apply to gasoline-fueled and diesel heavy-duty engines and vehicles and light-duty trucks.

§ 86.1505–83 Introduction; structure of subpart.

(a) This subpart describes the equipment required and the procedures to follow in order to perform idle exhaust emission tests on gasoline-fueled and diesel heavy-duty engines and vehicles and light-duty trucks. Subpart A sets forth the testing requirements and test intervals necessary to comply with EPA certification procedures.

(b) Four topics are addressed in this subpart. Sections 86.1505 through 86.1515 set forth specifications and equipment requirements; §§ 86.1516 through 86.1526 discuss calibration methods and frequency; test procedures and data requirements are listed (in approximately chronological order) in §§ 86.1527 through 86.1542; and calculation formulas are found in § 86.1544.

§ 86.1506–83 Equipment required and specifications; overview.

(a) This subpart contains procedures for idle exhaust emission tests on diesel or gasoline-fueled heavy-duty vehicles and engines and light-duty trucks. Equipment required and specifications are as follows:

(1) *Exhaust emission tests.* All vehicles subject to this subpart are

tested for exhaust emissions. Diesel and gasoline-fueled vehicles and engines are tested identically. Necessary equipment and specifications appear in §§ 86.1509 through 86.1511.

(2) *Fuel and analytical gas specifications.* Fuel requirements for idle exhaust emission testing are specified in § 86.1513. Analytical gases are specified in § 86.1514.

§ 86.1507–83 [Reserved]
§ 86.1508–83 [Reserved]

§ 86.1509–83 Exhaust gas sampling system.

(a) The exhaust gas sampling system shall transport the exhaust sample from the engine or vehicle tailpipe to the analysis system in such a manner as to maintain the integrity of the sample constituents that are to be analyzed.

(b) The sample system shall supply a dry sample (i.e., water removed) to the analysis system.

(c) A CVS sampling system with bag analysis as specified in Subpart N is permitted. The inclusion of an additional raw CO_2 analyzer as specified in Subpart D is required if the CVS system is used in order to accurately determine the CVS dilution factor (D.F.). The heated sample line specified in Subpart D for raw emission measurements is not required for the raw CO_2 measurement.

(d) A raw exhaust sampling system as specified in Subpart D is permitted.

§ 86.1510–83 [Reserved]

§ 86.1511–83 Exhaust gas analysis system.

(a) Analyzers used for this subpart shall meet the following specifications:

(1) The analyzers used must have ranges such that

(i) The carbon monoxide (CO) idle standard specified in § 86.083–10 and § 86.083–11 for heavy-duty engines or vehicles and for light-duty trucks will provide an analyzer response between 45 and 90 percent of full scale deflection on the CO analyzer.

(ii) The hydrocarbon (HC) idle standard specified in § 86.083–10 and § 86.083–11 for heavy-duty engines or vehicles and for light-duty trucks will provide an analyzer response between 45 and 90 percent of full scale deflection on the HC analyzer. The standard in ppmC can be divided by 6.0 to obtain n-hexane values (ppmC–6).

(2) The resolution of the readout device for the ranges specified in (a)(1) of this section shall be equal to or less than the following:

(i) 0.05 percent for a carbon monoxide analyzer, and

(ii) 5 ppmC–6 (n-hexane) for a hydrocarbon analyzer.

(3) For the ranges specified in (a)(1) of this section the precision shall be less than ±3 percent of full scale deflection. The precision is defined as 2 times the standard deviation of 5 repetitive responses to a given calibration gas.

(4) For the ranges specified in (a)(1) of this section, the mean response to a zero calibration gas shall not exceed ±3 percent of full scale during a one hour period.

(5) For the ranges specified in (a)(1) of this section the mean calibration response shall be less than ±3 percent of full scale during a one hour period. The calibration response is defined as the analyzer response to a calibration gas after the analyzer has been spanned by the electrical spanning network at the beginning of the one hour period.

(6) The analyzer must respond to an instantaneous step change at the entrance to the sampling system with a response equal to 90 percent of that step change within 15 seconds or less on the ranges specified in (a)(1) of this section. The step change shall be at least 60 percent of full scale deflection.

(7) The interference gases listed shall individually or collectively produce an analyzer reading less than ±2 percent of full scale on the ranges specified in (a)(1) of this section.

Interference gas	Concentration	Applicable analyzer
CO_2	14%	HC, CO.
C_3H_8	1%	CO.
CO	7%	HC.
H_2O	Saturated Vapor at 200° F.	HC, CO.
NOx	1000 ppm	HC, CO.
O_2	5%	HC, CO.

(8) The analyzer shall be able to meet the specifications in paragraph (a) of this section.

(i) after a 30 minute warm-up from the prevailing ambient conditions,

(ii) between the ambient temperatures of −20° C and 45° C (−4° F to 113° F),

(iii) between 0 to 85 percent relative humidity, and

(iv) during flow variations of ±50 percent.

(b) The following analysis systems are permitted when the analysis system is in a temperature controlled environment.

(1) A CVS sampling system with bag analysis as specified in Subpart N provided suitable corrections are used to convert dilute wet-basis results to raw dry-basis results. The inclusion of an additional raw CO_2 analyzer as specified in Subpart D is required if the CVS system is used in order to accurately determine the CVS dilution factor (D.F.).

(c) A raw exhaust analysis system as specified in Subpart D provided suitable corrections are used to convert raw wet-basis results to raw dry-basis results. Measurements made on a raw dry-basis do not need correction.

§ 86.1512–83 [Reserved]

§ 86.1513–83 Fuel specifications.

Fuel meeting the engine or vehicle manufacturer's recommendations to the ultimate purchaser shall be used. Fuels meeting the specifications in § 86.1313–83 for heavy-duty engines or vehicles, or § 86.113–79 for light-duty trucks as applicable are permitted.

§ 86.1514–83 Analytical gases.

(a) *Analyzer gases.* (1) Calibration gases for the CO analyzer shall be single blends using nitrogen as the diluent.

(2) Calibration gases for the (n-hexane) HC analyzer shall be single blends of propane using nitrogen as the diluent. The conversion factor from propane (ppm C–3) to n-hexane (ppmC–6) shall be:

ppm propane (0.50) = ppm n-hexane.

(3) Ambient air may be used for zero gas provided it is treated to remove impurities or draw from a source that would tend to minimize CO and HC background levels (e.g., a large room with no vehicles, ambient air, etc.).

(b) Calibration gases shall be traceable to within 3 percent of NBS gas standards, or other standards which have been approved by the Administrator.

(c) Calibration gases shall be equivalent in concentration (±10%) to the standards specified in § 86.083–10 and § 86.083–11 for heavy-duty engines or vehicles and for light-duty trucks.

(d) If the CVS sampling is used, the analytical gases specified in Subpart N shall be used.

(e) If the raw sampling system (Subpart D) is used, the analytical gases specified in Subpart D shall be used.

§ 86.1515–83 [Reserved]

§ 86.1516–83 Calibration; frequency and overview.

(a) Calibrations shall be performed as specified in §§ 86.1518 through 86.1526.

(b) At least weekly or after any maintenance which could alter calibration, check the calibration of the HC and CO analyzers. Adjust or repair the analyzer as necessary.

(c) Water traps, filters, or conditioning columns should be checked at least daily.

(d) If the sampling and analysis procedures of Subpart D or N are used, the required calibrations and their frequencies are specified in their respective Subparts.

§ 86.1517-83 [Reserved]

§ 86.1518-83 [Reserved]

§ 86.1519-83 CVS calibration.

If the CVS system is used for sampling during the idle emission test, the calibration instructions are specified in § 86.1319-83 of Subpart N.

§ 86.1520-83 [Reserved]

§ 86.1521-83 Hydrocarbon analyzer calibration.

(a) *Initial check.* (1) Follow the manufacturers instructions for instrument start-up and operation. Adjust the analyzer to optimize performance on the range specified in § 86.1511(a)(1).

(2) Calibrate the analyzer with the calibration gas specified in § 86.1514(c).

(3) Adjust the electrical span network such that the electrical span point is correct when the analyzer reads the calibration gas correctly.

(4) Determine that the analyzer complies with the specifications in § 86.1511.

(b) *Periodic check.* Follow steps (a) (1), (2), and (3) of this section as specified in § 86.1516(b). Adjust or repair the analyzer as necessary.

(c) If the analysis procedures of Subparts D or N are used, the required calibrations are specified in their respective Subparts.

§ 86.1522-83 Carbon monoxide analyzer calibration.

(a) *Initial check.* (1) Follow the manufacturers instructions for instrument start-up and operation. Adjust the analyzer to optimize performance on the range specified in § 86.1511(a)(1).

(2) Calibrate the analyzer with the calibration gas specified in § 86.1514(c).

(3) Adjust the electrical span network such that the electrical span point is correct when the analyzer reads the calibration gas correctly.

(4) Determine that the analyzer complies with the specifications in § 86.1511.

(b) *Periodic check.* Follow steps (a) (1), (2), and (3) of this section as specified by § 86.1516(b). Adjust or repair the analyzer as necessary.

(c) If the analysis procedures of Subpart D or N are used, the required calibrations are specified in their respective Subparts.

§ 86.1523-83 [Reserved]

§ 86.1524-83 Carbon dioxide analyzer calibration.

(a) The calibration requirements for the dilute-sample carbon dioxide analyzer are specified in Subpart N.

(b) The calibration requirements for the raw carbon dioxide analyzer are specified in Subpart D.

(c) If another sampling and analyzing system is used that does not require carbon dioxide (CO_2) analysis, this section may be disregarded.

§ 86.1525-83 [Reserved]

§ 86.1526-83 Calibration of other equipment.

Other test equipment used for testing shall be calibrated as often as required by the manufacturer or as necessary according to good practice.

§ 86.1527-83 Idle test procedure; overview.

(a) The idle emission test procedure is designed to determine the raw concentrations (in parts per million of carbon) of hydrocarbons and carbon monoxide in the exhaust flow at idle. The test procedure begins with a warm engine, required to be at the normal operating temperature. (For example, the warm-up for an engine may be a transient dynamometer test, or for a vehicle it may be any convenient operation).

(b) *Vehicles.* (1) If the idle test is being performed on a vehicle, all emission control systems shall be intact and functioning.

(c) *Engines.* (1) If the idle test is being performed on an engine, the required engine configuration is specified in Subpart N.

§ 86.1528-83 [Reserved]

§ 86.1529-83 [Reserved]

§ 86.1530-83 Test sequence; general requirements.

The test sequence shown in Figure P83-1 shows the major steps encountered during the idle test described by the subsequent procedures. The average ambient temperature of the engine test cell (in the case of an engine dynamometer test) or the vehicle environment (in the case of a vehicle test) shall be between −20°C and 45°C (−4°F to 113°F).

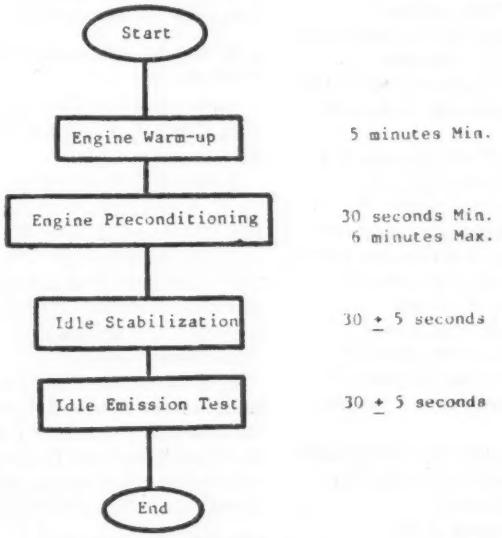

Figure P83-1 - Test Sequence

§§ 86.1531-83—86.1536-83 [Reserved]

§ 86.1537-83 Idle test run.

(a) *Test run.* The following steps shall be taken for each test:

(1) Achieve normal engine operating parameters. The transient emission dynamometer test is an acceptable technique to warm-up the engine to normal operating parameters for an engine test. If the transient emission test is not performed prior to the idle emission test, the engine may be warmed-up according to § 86.1332-83(d)(1)(i) through (iii) (applies to gasoline-fueled engines) or § 86.1332-83(d)(2)(i) through (iii) (applies to diesel engines). For a vehicle test, sufficient vehicle operation shall take place to achieve normal operating parameters.

(2) Check the device(s) for removing water from the exhaust sample and the sample filter(s). Remove any water from the water trap(s). Clean and replace the filter(s) as necessary.

(3) Set the zero and span points of the HC and CO analyzers with the electrical spanning network. It is permitted to set the analyzer span with calibration gases.

(4) Hook-up or attach the sampling system to the tailpipe of the engine or vehicle.

(5) Operate the engine at 2500±50 rpm for gasoline-fueled engines (1200±50 rpm for diesel) and zero load for a minimum of 30 seconds and a maximum of 6 minutes.

(6) Operate the engine at curb idle for 30±5 seconds with the dynamometer off for the engine test, or the transmission in neutral (or park for automatic transmissions) for the vehicle tests.

(7) Sample the exhaust (after step 6) for an additional 30±5 seconds for raw dry-basis HC in ppm C–6 (n-hexane) and raw dry-basis CO in percent. The highest value observed during this sample period shall be the value recorded.

(b) If the CVS sampling system is used, the following procedures apply:

(1) Warm-up the engine as specified in (a)(1) of this section.

(2) Precondition the engine as specified in (a)(5) of this section.

(3) With the sample selector valves in the "standby" position, connect evacuated sample collection bags to the dilute exhaust and dilution air sample collection systems.

(4) Start the CVS (if not already on), the sample pumps, the temperature recorder, the engine cooling fan, the heated hydrocarbon analysis recorder (diesel only), and the raw CO_2 analyzer. (The heat exchanger of the constant volume sampler, if used, diesel hydrocarbon analyzer continuous sample line, and filter (if applicable) shall be preheated to their respective operating temperatures before the test begins.

(5) Adjust the sample flow rates to the desired flow rate and set the gas flow measuring devices to zero.

(6) Operate the engine at the conditions specified in (a)(6) of this section.

(7) Begin HC and CO bag sampling and raw CO_2 sampling.

(8) Sample idle emissions long enough to obtain a sufficient bag sample, but in no case shorter than 60 seconds nor longer than 6 minutes. Follow the sampling and exhaust measurements requirements of subpart D for the conducting of the idle modes of the gasoline or diesel steady-state test for the raw CO_2 measurement.

(9) As soon as possible, transfer the idle test exhaust and dilution air samples to the analytical system and process the samples according to § 86.1540 obtaining a stabilized reading of the exhaust sample on all analyzers within 20 minutes of the end of the sample collection phase of the test.

(10) Disconnect the exhaust tube from the engine tailpipe(s).

(11) The CVS may be turned off, if desired.

(c) If the raw exhaust sampling and analysis technique specified in Subpart D is used, the following procedures apply:

(1) Warm-up the engine as specified in (a)(1) of this section.

(2) Precondition the engine as specified in (a)(5) of this section.

(3) Operate the engine at the conditions specified in (a)(6) of this section.

(4) Follow the sampling and exhaust measurement requirements of subpart D for conducting the idle modes. The respective mode lengths for gasoline-fueled and diesel engines apply.

(d) If the engine stalls at any time during the test run, the test is void.

§ 86.1538–83 [Reserved]
§ 86.1539–83 [Reserved]

§ 86.1540–83 Idle exhaust sample analysis.

(a) Record the idle concentrations in ppm C–6 (n-hexane) for HC and percent for CO.

(b) If the CVS sampling system is used, the analysis procedures for dilute HC, CO, and CO_2 specified in Subpart N apply. Follow the raw CO_2 analysis procedure specified in Subpart D for the raw CO_2 analyzer. The HC may be recorded as ppm propane (ppmC–3) or ppm carbon (ppmC).

(c) If the continuous raw exhaust sampling technique (Subpart D) is used, the analysis procedures for HC and CO specified in Subpart D apply. The HC may be recorded as ppm propane (ppmC–3) or ppm carbon (ppmC).

§ 86.1541–83 [Reserved]

§ 86.1542–83 Information required.

(a) *General data.* The following information shall be recorded for each idle emission test:

(1) Vehicle identification number for a vehicle test.

(2) Engine identification number for an engine test.

(3) Engine family.

(4) Engine displacement.

(5) Analyzer operator(s).

(6) Vehicle (engine) operator(s).

(7) Fuel identification.

(8) Date of purchase of analytical equipment.

(9) Date of most recent analytical assembly calibration.

(10) All pertinent instrument information such as tuning, gain, serial numbers, detector number, calibration curve numbers, etc. As long as this information is traceable, it may be summarized by system number or analyzer identification numbers.

(11) *Pre-test data.* (i) Date and time of day.

(ii) Test number.

(iii) Ambient temperature (vehicle test) or engine intake air temperature (engine test).

(iv) Vehicle mileage or engine hours as applicable.

(12) *Test data.* (i) Curb idle speed during the test.

(ii) Idle exhaust HC concentration.

(iii) Idle exhaust CO concentration.

(b) If a CVS sampling system with bag analysis is used for the idle emission test, record the additional information specified in Subpart N as applicable. In addition, record the raw exhaust CO_2 concentration during the test.

(c) If the raw exhaust sampling and analysis system specified in Subpart D is used, record the additional information specified in Subpart D as applicable.

§ 86.1543–83 [Reserved]

§ 86.1544–83 Calculations; idle exhaust emissions.

(a) The final idle emission test results shall be reported as ppmC (equivalent carbon) for hydrocarbons and percent for carbon monoxide, both on a dry basis. The results shall be reported to the same number of significant digits as the idle standards specified in § 86.083–10 and § 86.083–11.

(b) Convert dry-basis ppmC–6 (n-hexane) to ppmC (equivalent carbon) by:

$$\text{ppmC} = (6.0)\ \text{ppmC–6}$$

(c) If a CVS sampling system is used, the following procedure shall apply:

(1) Use the procedures, as applicable, in Subpart N to determine the dilute wet-basis HC in ppmC, and CO and CO_2 in percent.

(2) Use the procedure, as applicable, in Subpart D to determine the raw dry-basis CO_2 in percent.

(3) Convert the raw dry-basis CO_2 to raw wet-basis. An assumption that the percent of water by volume in the raw sample is equal to the percent of raw dry-basis CO_2 minus 0.5 percent is acceptable. For example:

10.0% dry CO_2 − 0.5% = 9.5% water
(1.00 − 0.095) (10.0% dry CO_2) = 9.05% wet CO_2

(4) Calculate the CVS dilution factor (DF) by:

$$DF = \frac{\text{Raw Wet } CO_2 - \text{Background } CO_2}{\text{Dilute Wet } CO_2 - \text{Background } CO_2}$$

(5) Convert the dilute wet-basis HC and CO to dilute dry-basis values. An assumption that the percent of water by volume in the sample bag is 2 percent is acceptable. For example:

dilute dry HC = (dilute wet HC) / (1.00 − 0.02)

(6) Calculate the raw dry-basis HC and CO values by:

raw dry HC = (DF) (dilute dry HC)
raw dry CO = (DF) (dilute dry CO)

(d) If the raw exhaust sampling and analysis system specified in Subpart D is used, the following procedure shall apply:

(1) Use the procedure, as applicable, in Subpart D to determine raw wet-basis HC and raw dry-basis CO and CO_2.

(2) Use the calculations specified in Subpart D to determine raw dry-basis HC.

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